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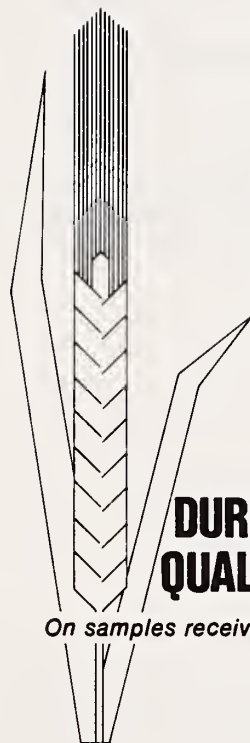
SDA

1987 CROP

DURUM WHEAT QUALITY REPORT

Physical, Chemical, Milling, and Spaghetti Characteristics

United States Department of Agriculture
Agricultural Research Service
North Central Region



DURUM WHEAT QUALITY REPORT

On samples received from the 1987 crop

Source:

Spring and Durum Wheat Quality Laboratory
USDA, Agricultural Research Service
Harris Hall, N.D.S.U.
Fargo, North Dakota 58105

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
in cooperation with
STATE AGRICULTURAL EXPERIMENT STATIONS

QUALITY EVALUATION OF DURUM WHEAT VARIETIES

1987 CROP1/

by

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1/ This is a progress report of cooperative investigations containing some results that have not been sufficiently confirmed to justify general release; interpretations may be modified with additional experimentation. Confirmed results will be published through established channels. The report is primarily a tool for use of cooperators and their official staffs and to those persons having direct and special interest in the development of agricultural research programs.

This report was compiled by the Agricultural Research Service, U. S. Department of Agriculture. Special acknowledgment is made to the North Dakota State University for their facilities and services provided in support of these studies. The report is not intended for publication and should not be referred to in literature citations or quoted in publicity or advertising. Use of the data may be granted for certain purposes upon written request to the agency or agencies involved. Cooperators submitting samples for analysis have been given analytical data on their samples prior to release of this report.

2/ Hard Red Spring & Durum Wheat Quality Lab., NDSU.

3/ Dept. of Cereal Science & Food Technology, NDSU.

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INTRODUCTION

The twenty-fourth Durum Wheat Quality Report contains data for the 1987 crop. Samples of standard varieties and new strains of durum wheat grown in cooperative experiments in the durum wheat regions of the United States^{4/} were milled and evaluated by the Hard Red Spring and Durum Wheat Quality Laboratory in cooperation with the Department of Cereal Chemistry and Technology on the campus of North Dakota State University at Fargo, ND. Methods and techniques are described in detail in the text of the report.

All samples received that were large enough to mill on the Buhler experimental mill were processed into spaghetti using the macro spaghetti processing method as described on page 13. A five pound wheat sample is required for the above method. All other samples were milled using the micro procedure and were not processed into spaghetti. Those samples having acceptable kernel characteristics and dust color score, if possible, should be included for macro processing the following year.

The purpose of this report is to make available to cooperators the quality data on standard varieties and new selections of durum wheat from the 1987 crop.

^{4/} Cantrell, R.G. and Brosz, J. Wheat varieties grown in cooperative plot and nursery experiments in the spring wheat region in 1987. Department of Agronomy, North Dakota State University, Fargo, ND.

SOURCE OF THE 1987 CROP SAMPLES

Tests were performed on six hundred twenty-three samples from 19 stations and seven states (California, Washington, North Dakota, Idaho, Montana, Minnesota and South Dakota) for quality evaluation. Data presented in this report are from the Field Plot Nursery, Uniform Regional Nursery, Western Durum Nursery, Preliminary Nursery and the Advanced Nursery samples.

FIELD PLOTS - 14

Fargo, Minot and Langdon

UNIFORM REGIONAL NURSERY - 272

Day County and Selby - South Dakota
Crookston and Morris - Minnesota
Bozeman, Sidney and Conrad - Montana
Williston and Carrington - North Dakota

WESTERN DURUM NURSERY - 71

Aberdeen - Idaho
Royal Slope - Washington

PRELIMINARY NURSERY - 15

Tulelake - California

ADVANCED NURSERY - 251

Imperial Valley, Kings County, Delta and Davis - California

1987 UNIFORM REGIONAL DURUM NURSERY

LIST OF ENTRIES

Entry No.	Entry	Sel. or P.I. No.	Year Entered	Origin
1	Mindum	5296	1929	Minnesota
2	Ward	D6674	1969	ND-USDA
3	Rugby	D6722	1970	ND-USDA
4	Vic	D74112	1976	ND-USDA
5	Lloyd	D771*	1978	ND-USDA
6	Medora	DT433	1980	AC, Winnipeg
7	Monroe	D793	1981	ND-USDA
8	Sceptre	DT380	1985	Univ. Sask.
9	Stockholm	NHD81-466*	1984	NAPB
10	Fjord	NHD81-485	1984	NAPB
11	RLT/VIC	D8172	1985	ND
12	D7690/Vic	D8191	1985	ND
13	D7690/Vic	D8193	1985	ND
14	D783/Vic	D81151	1985	ND
15	D785/Vic	D81154	1985	ND
16	D773/Vic	D8261*	1986	ND
17	D773/Vic	D8263*	1986	ND
18	D77200/Vic	D8269*	1986	ND
19	D773/CLT	D8291*	1986	ND
20	----	FA883-323	1986	WPB
21	----	FA884-326*	1987	WPB
22	Vic Mutant	NPB86748*	1987	Konzak
23	D785/D7869	D8302	1987	ND
24	D785/Vic	D8304	1987	ND
25	D782/D7869	D8309	1987	ND
26	D782/D7869	D8311	1987	ND
27	D78121/D78181	D8370*	1987	ND
28	D78114/D78129	D8374*	1987	ND
29	D78142/D78114	D8380*	1987	ND
30	D776/D7224	D83103*	1987	ND

* Semidwarf

WESTERN REGIONAL DURUM NURSERY

LIST OF ENTRIES

Carc "S"	T83 136
Durox	T83 138
Irridur	TL 730471
Laker	TL 801045
Lloyd	TL 801065
Modoc	TL 820100
Turbo	TL 820112
Vic 1A	UC 606
Waid	UC 640
Yav "S"	UC 642
Yavaros 79	UC 686
YGA "S"	UC 714
D 74111	WPB 881
D 79209	WPB 884
FLD 87050	
FLD 87306	
FLD 87336	
HD 810466	
PBS 2008	
PBS 2105	
PBS 2120	
PBS 3113	
PBS 3215	
PBS 3429	
PBS 3509	

METHODS

The methods used in the testing of the samples were essentially the same as given in the last report.

Briefly, the following methods and terminologies were applied:

Test Weight Per Bushel - The weight per Winchester bushel of dockage-free wheat.

Thousand Kernel Weight - The 1000 kernel weight was determined by counting the number of kernels in a 10 g sample of cleaned, picked wheat on a Seedburo seed counter^{5/}.

Kernel Size - The percentage of the size of the kernels [large, medium, and small] was determined on a wheat sizer as described by Shuey^{6/}.

The sieves of the sizer were clothed as follows:

Top Sieve - Tyler # 7 with 2.92 mm opening
Middle Sieve - Tyler # 9 with 2.24 mm opening
Bottom Sieve - Tyler #12 with 1.65 mm opening

Protein Content - Both the Kjeldahl procedure and the near infrared technique were used to determine protein content. Nitrogen values, as determined by the Kjeldahl procedure, were multiplied by 5.7 to calculate protein values.

Hardness Test - This year wheat hardness scores are re-reported on the samples. The procedure used requires grinding the wheat samples with a UDY grinder, and obtaining data from a Technicon 400 near infrared analyzer. Wavelengths used were 1680 nm and 2230 nm. This procedure was developed by Mr. Karl Norris, USDA, Beltsville through a co-operative research project in which this Laboratory also participated. This procedure is not official and may be replaced with another in the

^{5/} Mention of a trademark name or proprietary product does not constitute a guarantee or warranty of the product by the U. S. Department of Agriculture, and does not imply its approval to the exclusion of other products that may also be suitable.

^{6/} Shuey, William C. A wheat sizing technique for predicting flour milling yield. Cereal Sci. Today 5:71 (1960).

future. Durum wheat hardness scores for the 1987 crop ranged from a low of 51 to a high of 140 with an average of 104.4.

Milling - All samples were cleaned by passing the wheat through an Emerson kicker and dockage tester and through a modified Forster scourer Model 6. The clean, dry wheat from the larger 2 kg samples was tempered in three stages: first to 12.5% moisture at least 72 hours prior to the second stage which is to add an additional 2.0% for 18 hours to give a cumulative moisture of 14.5%, then a final temper of 3.0%, 45 minutes prior to milling. The smaller 200 gram samples were pretempered to 12.5% moisture for at least 72 hours. They were then tempered to 16.5% moisture and allowed to stand overnight prior to milling.

The large field plot, preliminary and advanced samples were milled on a Buhler experimental mill specially designed for milling durum wheat. The mill is equipped with corrugated rolls throughout, and the semolina purified on a Miag laboratory purifier. All of the stock is handled pneumatically. The mill flow is shown on page 10. The purified semolina is used in testing the quality of semolina. The semolina extraction was calculated on a total products basis. Prior to milling this year's samples, the Buhler mill and purifiers were adjusted to maximize semolina yield, yet keep the speck count to an acceptable level.

The small samples were milled on a Brabender Quadrumat Jr. mill. The flow diagram of this system is shown on page 11. The unpurified semolina was rebolted on a strand sifter equipped with a #35 tyler sieve. The sample was sifted for 30 seconds. The throughs of the #35 tyler sieve were classified as rebolted semolina. The overs of the #35 tyler sieve were reground and sieved again for 30 seconds. The throughs were combined with the first sieving. This was the material tested. The overs of the #35 tyler sieve were classified as crude shorts, and the overs of the rotating #34 wire sieve were classified as bran.

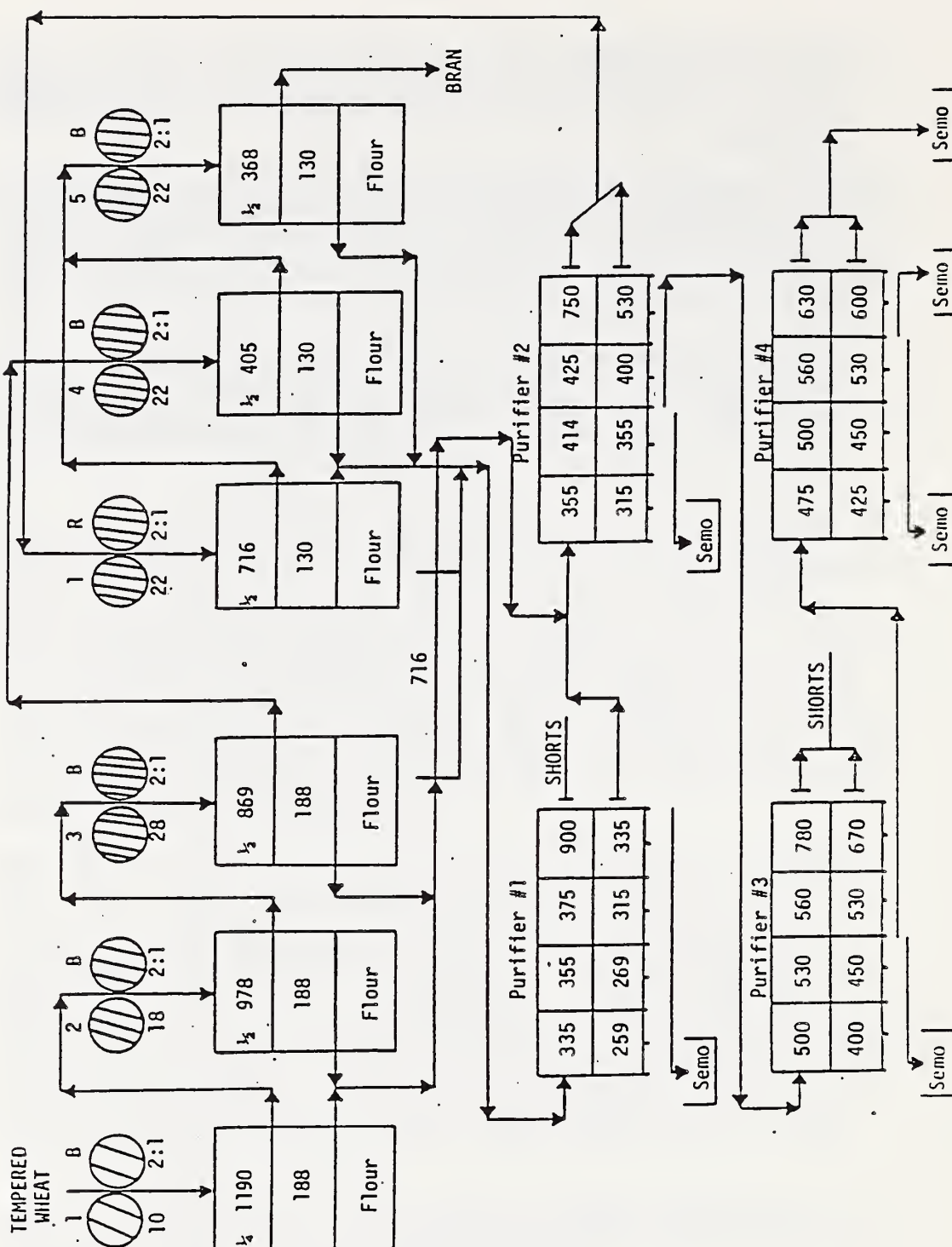
Semolina Extraction - For both the macro and micro method of milling, the percent semolina extraction was calculated on a total product basis.

Speck Count - The number of specks in three different one-inch square areas of semolina enclosed by a special glass and frame were counted. Any materials other than pure endosperm chunks, such as bran particles, etc. were

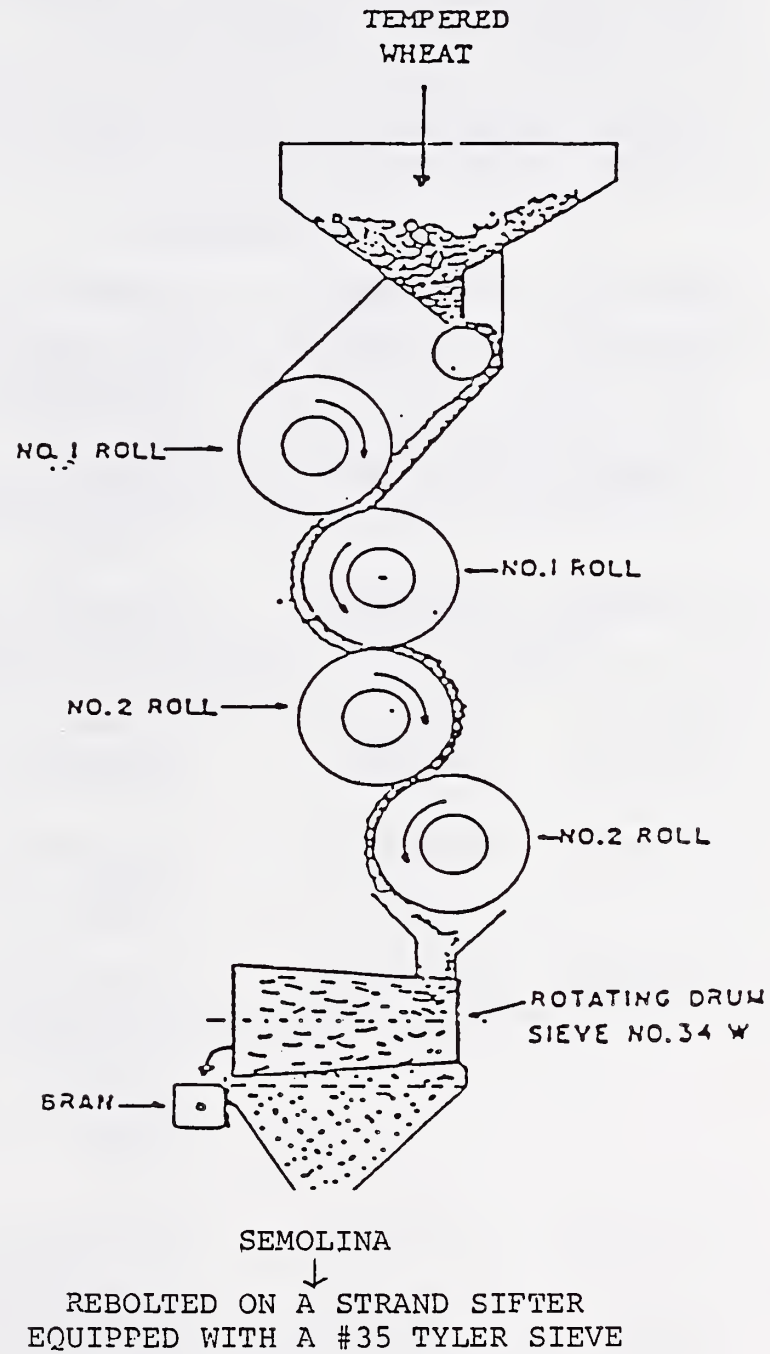
considered specks. The average of three readings was converted to the number of specks per 10 sq in (speck count). Speck count is done only on the macro milled samples.

Color Score - The color of the spaghetti or semolina has been generally accepted as the most important single grading factor. A deep amber or golden color is the most preferable. The amount of yellow pigmentation determines the color.

Cooked Weight - After cooking the 10 g of spaghetti for 12 minutes, the samples were washed thoroughly with distilled water and allowed to drain in a buchner funnel for 2 minutes. The sample was then weighed, and this weight is recorded as the cooked weight.



FLOW DIAGRAM FOR SMALL DURUM WHEAT SAMPLES
MICRO PROCEDURE



Samples which have a color rating 1.5 point below the standard spaghetti score or 15 points below the standard semolina color score are unsatisfactory. It is possible that the average color score for a crop year may be higher or lower than average; therefore, this would be taken into consideration when giving the overall rating of a variety over a number of years.

The grading system shown below has been adopted for scoring the semolina color and spaghetti relative to the standard color score.

COLOR SCORE

<u>Semolina</u>	<u>Spaghetti</u>	<u>Description</u>
15 above	1.5 above	Much deeper and intense yellow pigmentation than standard
10 above	1.0 above	Deeper and more intense yellow pigmentation than standard
5 above	0.5 above	Slightly deeper and more intense yellow pigmentation than standard
Equal to Standard	Equal to Standard	Standard quality, depth and intensity of yellow pigmentation
5 below	0.5 below	Slightly less depth and intensity, but sufficient quantity of pigmentation
10 below	1.0 below	Slightly less quantity as well as depth and intensity of pigmentation than the standard, but still sufficient to be rated satisfactory on the basis of color
15 below	1.5 below	Sufficiently less quantity of yellow pigmentation than the standard to give a pale yellow color and graded unsatisfactory for color score.

Semolina Color Score - The semolina color score was determined by using Model D25M-9 Hunterlab tristimulus colorimeter equipped with an optical sensor and a signal processor. The instrument was calibrated using a yellow standard tile with Hunter L, a, b values of L = 77.33, a = -1.91, b = 20.94. A sample of semolina was placed in a cell normally used for near infrared analysis of flour in a Technicon 400 Infra Analyzer. This cell fits in the opening of the optical sensor. The b value was converted to a yellow color score ranging from 1-14, with 14 being a deep yellow and the most desirable color. In this report, the semolina color score, reported as "Du" in the tables, is multiplied by a factor of 10.

Spaghetti Color - The spaghetti color scores also were measured in the Model D25M-9 colorimeter. The specimen area (2 in diameter) was covered with straight spaghetti strands and readings were taken against a black background with 0% reflectance. Color difference values (L%, a% and b%) were measured for all the spaghetti samples by the method of Walsh, Gilles and Shuey^{7/}. A uniform chromaticity chart was used for determining spaghetti color scores.

MACRO Spaghetti Processing - Spaghetti was processed on a semi-commercial scale pasta extruder (DEMACO). The control as well as all samples was processed with the following extruding conditions.

Temperature 49.5°C
Rate 12 rpm
Absorption 32.5%
Vacuum 18 in Hg

These were the optimum conditions for processing spaghetti.

^{7/} Walsh, D. E., Gilles, K. A. and Shuey, W. C. Color determination of spaghetti by the tristimulus method. Cereal Chem. 46:7 (1969).

To process the spaghetti, a 1000 g batch was premixed by slowly adding the water and mixing at a slow speed for approximately 30 seconds and high speed for 10 seconds. Then the remainder of the water was added at slow speed in a Hobart C-100-T mixer equipped with a pastry knife agitator. After all of the water had been added, the semolina and water were blended at high speed for 30 seconds; the mixer was stopped to scrape down the sides of the bowl, and the blending continued for 90 seconds more to complete the premix stage. The premixed pasta was then transferred to the vacuum mixer of the press and extruded through an 84-strand 0.043 in teflon spaghetti die. A jacketed extension tube (9¼" long x 1-3/4" inside diameter) was attached to the semi-commercial pasta extruder to allow more time for hydration of the semolina and minimize the number of white specks (unhydrated semolina) in the spaghetti. Extrusion temperature was controlled by a circulating water bath.

Spaghetti Drying - Spaghetti was dried in an experimental pasta dryer for an 18 hour cycle as described by Gilles, Sibbitt and Shuey^{8/}. During the drying period, the humidity of the dryer was decreased linearly from 95 to 60% R.H. and the temperature was held constant at 40°C.

^{8/} Gilles, K. A., Sibbitt, L. D. and Shuey, W. C. Automatic laboratory dryer for macaroni products. Cereal Sci. Today 11:322 (1966).

Cooking Characteristics of Spaghetti

A. Cooking Procedure

Spaghetti (10 g) which had been broken into lengths of approximately 5 cm, was placed into 300 ml of boiling water in a 500 ml beaker. After 12 minutes cooking, the samples were washed thoroughly with distilled water in a Buchner funnel, allowed to drain for 2 minutes and then weighed to determine cooked weight. This procedure is the same as last year, but differs from previous years, when a 1% salt solution was used and the spaghetti was cooked for 10 minutes.

B. Firmness Score

Two strands of cooked spaghetti were placed on a plexiglass plate and sheared at a 90° angle with a special plexiglass tooth. A continuous recording of distance versus force was made by the instrument during the operation. An automatic integrator was used to calculate the area under the curve (g cm) which was the amount of work required to shear the cooked spaghetti. To measure firmness, the average of three integrator scores was used, and the average work to shear was used as a measure of spaghetti firmness.

Calculations were as follows:

$$E = 0.0216 \times A \text{ (g cm)}$$

A = Average integrator reading

E = Area of curve expressed as g cm (work)

The higher the value, the firmer the spaghetti. A value of approximately 7.00 appears to be preferred.

C. Residue

This is the weight of the solids remaining after the combined cooking and washing water was evaporated.

DISCUSSION

The following discussion represents some of the basic techniques and criteria used in the milling and cooking quality evaluation of durum wheat samples. Several testing factors are used to determine the overall quality characteristics or final evaluation of a particular sample including, in general, the kernel characteristics, milling performance and cooking performance.

Each evaluation factor can be important. A sample could be of sufficiently poor quality for a given factor to eliminate it from possible future testing. However, a sample submitted for the first time and found to show little promise should be tested again to establish if it has some good promise, or no promise. A sample which is consistently rated as little promise or no promise should be discarded.

Data presented in this report were processed by using the Statistical Analysis System (SAS Institute, Inc., SAS Circle, Box 8000, Cary, NC 27511). The program developed from this system allows flexibility within the quality grading factors. This should allow us to relate more directly to industry and consumer requirements.^{9/}

In this evaluation system 11 dependent variables are used. These are test weight, 1000 kernel weight, percent small kernels, wheat protein, total extraction, semolina extraction, dust color, speck count, semolina protein, spaghetti visual color score and spaghetti firmness score. Seven additional variables are measured and included in the tables for the reader's use and information but are not used in the computerized evaluation of the samples. These are percent large kernels, hardness, mixograph score, semolina mineral, falling number, cooked weight and cooking residue.

After computing an average of each of the 11 variables for the standards from a station or nursery, the computer subtracts established values from each of the standard averages to determine major (MJ) and minor (MI) faulting limits. There are two exceptions where precise values have been assigned, which are independent of the station standards. The first exception is wheat protein, where percentages below 11.5% will be classified as MJ faults, and percentages between 11.5% - 12.5% will be MI faults (14% m.b.). The second exception is semolina protein, where percentages below 11.0% are classified as MJ faults, and percentages between 11.0 and 11.5% are classified as MI faults (14% m.b.). Hence, the wheat and semolina protein faulting values remain the same for all stations and nurseries.

^{9/} Nolte, L.L., Youngs, V.L., Crawford, R.D. and Kuerth, W.H. 1985. Computer program evaluation of hard red spring wheat. Cereal Foods World 30:227-229.

SELECTION OF STANDARDS

Whenever possible, the standards selected were named varieties grown at each location or in each nursery. In the tables of data, the varieties used as standards are identified by an "s" in the second column. At the bottom of each table are cited "average of standards". Quality deviation from these values determine the major and minor faults (note preceding paragraph). In nurseries where breeders did not grow named varieties, standard quality data were obtained from the 1987 North Dakota standard ('Vic'), which was processed separately with each nursery. This standard was grown in North Dakota, not at the particular nursery location. Other deviations are footnoted in the tables.

HOW SAMPLES ARE SCORED

Each sample is assigned an evaluation score of 4. Major and minor faults determined from the data by the computer will reduce this score, depending upon the quality factor being faulted. The effects of the different quality faults are shown in the table which follows:

DURUM PROGRAM FAULTING AND SCORING VALUES

Variable	<u>Range^a</u>		<u>Effect on Evaluation Score^b</u>	
	Minor fault	Major fault	Minor fault	Major fault
Test Wt. (lb/bu)	-2.2	-3.1	-	-1
1000 KWT (g)	-2.1	-5.1	-	-1
Small Kernels (%)	+5	+10	-	-1
Wheat Prot. (%)	12.5	11.5	-1	-2
Tot. Ext. (%)	-2.5	-3.5	-1	-2
Semo. Ext. (%)	-3.0	-4.0	-1	-2
Dust color	-10	-15	-2	-3
Specks/10 sq. in.	+10	+15	-	-1
Semo. Prot. (%)	11.5	11.0	-1	-2
Visual Spag. color	-1.0	-1.5	-2	-3
Firmness (g cm)	-1.5	-2.25	-1	-2

^a Wheat and semolina protein percents are fixed lower limits for faults. All other values represent the deviation from the average of the standards required to warrant a minor or major fault.

^b These values are subtracted from a beginning score of 4.

EXPERIMENTAL RESULTS - 1987 CROP

The results are tabulated and presented in the following order: Tables 1-9, Uniform Regional Nursery; Tables 10-11, Western Durum Nursery; Tables 12-14, Field Plot Nursery; Table 15, Preliminary Nursery; Tables 16-25, Advanced Nursery.

UNIFORM REGIONAL NURSERY

Two hundred seventy-two samples were received from nine stations and four states. Thirty samples were received from eight stations, and thirty-two samples were received from one station. Ten of these samples were named varieties from eight stations and twelve named varieties were from one station. The remainder were experimental lines. The word descriptions of these numerical scores are as follows: 1-1.4, no promise; 1.5-2.4, little promise; 2.5-3.4, some promise; 3.5-4.0, good promise. The discussion which follows is based on averaged data from the nine stations.

Crosby (2.0 - 2/1)10/ - Little promise. This variety was grown in 1987 at one station only - Williston, ND.

Faults (1987 crop, Williston, ND only)

Kernel Characteristics - 1000 KWT.

Milling Performance - Semolina extraction.

Laker (2.7 - 2/0) (3 years) - Some promise. This variety was grown in 1987 at one station only - Williston, ND.

Faults (1987 crop only)

Kernel Characteristics - Satisfactory.

Milling Performance - Dust color.

Fjord (3.7 - 10/2) (3 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT, wheat protein.

Milling Performance - Semolina extraction.

10/ (Average General Evaluation - Number of Total Deficiencies/Major Deficiencies)

Lloyd (3.5 - 20/6) (3 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT, small kernels, test weight, wheat protein.

Milling Performance - Semolina extraction.

Medora (3.8 - 6/1) (3 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT, wheat protein.

Milling Performance - Semolina extraction, dust color.

Mindum (1.7 - 35/19) (3 years) - Little promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT.

Milling Performance - Dust color.

Monroe (3.8 - 5/1) (3 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - Wheat protein.

Milling Performance - Semolina extraction.

Rugby (3.9 - 10/1) (3 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT.

Milling Performance - Satisfactory.

Sceptre (3.5 - 23/6) (3 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT.

Milling Performance - Semolina extraction.

Stockholm (3.3 - 27/9) (3 years) - Some promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT, small kernels,
wheat protein.

Milling Performance - Semolina extraction.

Vic (3.9 - 2/1) (3 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - Satisfactory.

Milling Performance - Satisfactory.

Ward (3.8 - 10/1) (3 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT.

Milling Performance - Semolina extraction.

D8172 (3.7 - 16/2) (3 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT, wheat protein.

Milling Performance - Semolina extraction.

D8191 (3.7 - 6/2) (3 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - Satisfactory.

Milling Performance - Semolina extraction, dust color.

D8193 (3.8 - 9/2) (3 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT.

Milling Performance - Semolina extraction.

D8261 (3.5 - 17/3) (2 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT, small kernels,
wheat protein, test weight.

Milling Performance - Semolina extraction.

D8263 (3.9 - 6/0) (2 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT, wheat protein.

Milling Performance - Satisfactory.

D8269 (3.8 - 10/0) (2 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT, wheat protein.

Milling Performance - Dust color.

D8291 (3.1 - 22/13) (2 years) - Some promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT, small kernels,
wheat protein.

Milling Performance - Semolina extraction.

D8302 (3.7 - 5/1) (1 year) - Good promise.

Faults (1987 crop)

Kernel Characteristics - 1000 KWT.

Milling Performance - Semolina extraction.

D8304 (3.7 - 7/1) (1 year) - Good promise.

Faults (1987 crop)

Kernel Characteristics - 1000 KWT.

Milling Performance - Semolina extraction.

D8309 (3.8 - 7/1) (1 year) - Good promise.

Faults (1987 crop)

Kernel Characteristics - 1000 KWT.

Milling Performance - Semolina extraction.

D8311 (3.3 - 5/1) (1 year) - Some promise.

Faults (1987 crop)

Kernel Characteristics - 1000 KWT.

Milling Performance - Semolina extraction, dust color.

D8370 (2.4 - 15/10) (1 year) - Little promise.

Faults (1987 crop)

Kernel Characteristics - 1000 KWT, small kernels,
wheat protein.

Milling Performance - Semolina extraction, dust color.

D8374 (3.8 - 5/1) (1 year) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT.

Milling Performance - Semolina extraction.

D8380 (3.6 - 10/2) (1 year) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT, small kernels,
wheat protein.

Milling Performance - Semolina extraction.

D81151 (3.4 - 25/5) (3 years) - Some promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT.

Milling Performance - Semolina extraction.

D81154 (3.8 - 19/1) (3 years) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT.

Milling Performance - Satisfactory.

D83103 (3.9 - 4/0) (1 year) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - Test weight, 1000 KWT, small kernels, wheat protein.

Milling Performance - Satisfactory.

FA883-323 (3.8 - 5/1) (2 years) - Good promise.

Faults (1987 crop)

Kernel Characteristics - 1000 KWT.

Milling Performance - Semolina extraction.

FA884-326 (3.7 - 5/1) (1 year) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT, small kernels, wheat protein.

Milling Performance - Semolina extraction.

NPB86748 (3.6 - 6/1) (1 year) - Good promise.

Faults (1987 crop only)

Kernel Characteristics - 1000 KWT, test weight.

Milling Performance - Semolina extraction.

WESTERN DURUM NURSERY

Aberdeen, ID and Royal Slope, WA - Tables 10-11

Seventy-one samples were received from two stations in two states. All analyses were done the same as for the Uniform Regional Nursery using our micro procedure. For Aberdeen, ID our 1987 standard was used as the standard. The average general score for Aberdeen was 2.3. Semolina extraction and dust color were the two main areas for deficiencies. This data is in Table 10. Our 1987 standard and Lloyd were used as the standards for Royal Slope. The average general score for Royal Slope was 3.0. Dust color was the major faulting area for this station. This data is reported in Table 11.

FIELD PLOT NURSERY

Fargo, Minot and Langdon, North Dakota - Tables 12-14

Fourteen samples were received from these three stations; all were named varieties. All samples were milled, and the semolina was processed into spaghetti using our macro method. Vic was used as the standard from all three stations.

PRELIMINARY NURSERY

Tulelake, California - Table 15

Fifteen samples were received from this station. Our 1987 standard was used as the standard. All analyses were done the same as for the Uniform Regional Nursery using our micro procedure. The average general score for this station was 1.3. The major faulting area for this station was semolina extraction and dust color.

ADVANCED NURSERY

A total of 251 samples were received from four stations in one state. All samples were milled, and the semolina was processed into spaghetti using our macro method.

Imperial Valley, California - Table 16

Twenty-nine samples were received from this station. Aldura and Mexicali were used as the standards. The average general score for this station was 3.0.

Kings County, California - Table 17

Twenty-nine samples were received from this station. Aldura and Mexicali were used as the standards. The average general score for this station was 2.4.

Delta area, California - Table 18

Twenty-nine sample were received from this station. Aldura and Mexicali were used as the standards. The average general score for this station was 1.0.

Imperial Valley, California - Table 19

Forty-three samples were received from this set. Aldura, Mexicali 75 and Yavaros were used as the standards. The average general score for this station was 1.2.

Imperial Valley, California - Table 20

Twenty-one samples were received in this set. Aldura, Mexicali 75 and Westbred 881 were used as the standards. The average general score for this set was 3.3.

Davis, California, Experiment #720 - Table 21

Twenty-eight samples were received from this station. Aldura and Mexicali 75 were used as the standards. The average general score for this experiment was 1.1.

Davis, California, Experiment #721 - Table 22

Twenty-six samples were received in this set. Aldura and Mexicali 75 were used as the standards. The average general score for this experiment was 2.0.

Davis, California, Experiment #722 - Table 23

Twenty samples were received in this set. Altar was used as the standard. The average general score for this experiment was 2.2.

Davis, California, Experiment #723 - Table 24

Thirteen samples were received in this set. Aldura was used as the standard. The average general score for this experiment was 1.5.

Davis, California, Experiment #724 - Table 25

Thirteen samples were received in this set. Aldura was used as the standard. The average general score for this experiment was 1.7.

EXPLANATION OF ABBREVIATIONS
LISTED UNDER THE HEADINGS AND UNDER
MINOR AND MAJOR DEFICIENCIES ON TABLES

MINOR AND MAJOR DEFICIENCIES ON COMPUTER PRINTOUT

S or STD = Standard
TW = Test Weight

1000 KWT or KW = 1000 Kernel Weight
LG = % Large Kernels
SM = % Small Kernels

WHT PRO or WP = Wheat Protein
TOT EXT or TX = Total Extraction (Semolina Plus
Flour)
SEMO EXT or SX = Semolina Extraction
DUS or DU = Semolina Dust Color Score (High
score is more desirable)

MX = Mixograph Score (The higher the number, the
stronger the curve)
SPK or SK = Semolina Speck Count
SEMO MIN = Semolina Mineral

FALL NO = Semolina Falling Number Value (Values
above 300 are desired)
SEMO PRO or SP = Semolina Protein

VI = Spaghetti Visual Color Score (The higher
the score, the more desirable)
FIRM or FR = Cooked Spaghetti Firmness Score
(Approx. 6.50 to 8.50 is the
desirable range)

RES = Residue in Water of Cooked Spaghetti
VALU = Sample Evaluation Number (Example 4 =
Good Promise)

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=SOUTH DAKOTA STATION=DAY CO. NURSEY=UNIFORM

TABLE 1

VARIETY	STD	TEST WT	1000 K.WT	% LG_SM	WHT PRO	HARD NESS	SEMO EXTR	DUST COLOR	MIXO SCR	SCORE ***	TW	KW	SM	WP	SX	DU
FJORD		61.7	34.7	14	3	17.1	130	95	8	3						MI
LLOYD	S	57.6	33.7	5	8	17.9	124	95	8	4						
MEDORA		61.1	32.9	7	3	17.9	129	85	7	4						
MINDUM		61.5	32.3	6	4	17.2	120	65	3	1						MJ
MONROE		60.0	35.1	8	3	16.9	128	80	7	2						
RUGBY		60.1	31.2	4	7	17.8	132	90	4	4						MI
SCEPTRE		60.1	31.5	8	3	17.0	124	85	6	4						MI
STOCKHOLM		60.2	30.1	2	12	16.8	118	85	5	2						MJ
VIC	S	61.2	35.5	5	3	17.9	128	85	7	4						
WARD	S	61.0	33.3	3	4	18.0	122	85	4	4						
D 8172		60.6	32.9	3	5	16.9	130	80	6	2						MJ
D 8191		60.6	34.2	5	4	17.7	131	80	7	2						MJ
D 8193		59.9	31.8	6	4	17.4	136	85	7	2						MJ
D 8261		59.5	29.8	3	11	17.2	123	90	7	2						MI
D 8263		59.7	30.4	2	9	17.4	120	95	8	4						MI
D 8269		59.8	33.0	3	8	17.2	121	85	6	4						
D 8291		58.4	29.2	1	18	17.7	125	90	5	1						MJ
D 8302		59.9	30.3	3	9	16.6	121	90	5	2						MI
D 8304		60.2	32.5	2	8	17.1	127	105	8	4						
D 8309		60.7	30.5	3	8	17.6	136	80	8	2						MI
D 8311		61.2	33.6	4	6	16.8	124	80	8	3						
D 8370		58.6	27.5	2	17	17.0	127	80	7	1						MJ
D 8374		60.2	34.2	4	7	16.4	128	90	6	2						MI
D 8380		60.9	31.6	3	9	16.6	116	95	6	2						MJ
D 81151		59.5	30.1	3	8	17.6	122	95	7	3						MI
D 91154		60.8	31.8	4	5	17.8	129	100	8	4						MI
D 83103		59.4	33.2	7	5	16.4	112	100	6	4						
FA 883323		61.1	36.2	9	2	17.0	122	90	5	2						MJ
FA 984-326		59.3	31.3	4	10	16.0	119	90	7	3						MI
NPB 86748		61.0	32.7	11	5	17.2	128	90	7	4						

DEFICIENCIES
 TW KW SM WP SX DU
 AVG OF STANDARDS 59.9 34.2 5 17.9 53.6 88
 MINOR FAULTING VALUES 57.7 32.1 10 12.5 50.6 78
 MAJOR FAULTING VALUES 56.8 29.1 15 11.5 49.6 73

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=SOUTH DAKOTA STATION=SELBY NURSERY=UNIFORM

TABLE 2

VARIETY STD	TEST WT	1000 K.WT	% LG SM	WHT PRO	HARD NESS	SEMO EXTR	DUST COLOR	MIXD SCR	SCORE ***	DEFICIENCIES TW KW SM WP SX DU
FJORD	61.4	38.3	38 3	13.3	120	61.8	100	6	4	MI
LLOYD	58.3	41.2	33 2	13.4	112	61.4	90	6	4	
MEDORA	60.4	39.7	38 1	13.6	114	57.5	90	4	4	
MINDUM	58.2	33.7	26 3	13.9	97	54.2	65	1	1	MJ
MONROE	61.3	46.7	61 2	13.3	111	59.6	85	4	4	
RUSBY	60.8	39.1	43 1	13.7	119	56.1	85	1	4	MI
SCEPTRE	59.0	36.6	37 1	14.5	111	53.5	85	5	3	MJ
STOCKHOLM	59.4	39.5	30 1	13.9	105	51.6	85	4	2	MI
VIC	60.2	44.2	51 0	14.0	117	55.8	85	3	4	
WARD	60.8	40.0	39 1	13.9	122	50.0	85	1	2	MJ
D 8172	60.2	37.3	29 1	13.8	123	54.5	80	3	4	MI
D 8191	57.8	39.7	45 1	14.6	118	54.7	85	5	4	
D 8193	59.2	41.3	51 1	14.1	117	56.5	90	5	4	
D 8261	59.9	40.0	42 0	13.3	114	60.8	95	5	4	
D 8263	59.3	39.8	37 1	13.7	103	58.8	95	5	4	
D 8269	58.7	43.5	33 0	13.6	113	61.1	75	4	2	MI
D 8291	58.8	38.8	36 2	13.4	122	54.0	85	4	4	MI
D 8302	60.7	38.6	19 2	13.6	108	57.5	85	5	4	MI
D 8304	59.7	39.7	39 0	14.1	112	59.5	100	6	4	
D 8309	60.9	39.7	31 1	14.1	115	64.4	85	6	4	
D 8311	62.1	40.7	32 2	15.1	114	56.3	85	6	4	
D 8370	57.8	33.7	22 3	14.1	106	52.1	80	4	2	MI
D 8374	58.2	38.3	27 3	14.2	107	54.4	90	4	4	
D 8380	58.6	35.8	17 4	13.9	99	59.3	95	5	3	
D 81151	58.2	36.8	36 3	13.4	110	58.2	100	5	4	MI
D 81154	59.4	37.5	32 3	14.1	111	57.6	95	6	4	MI
D 83103	59.2	41.5	48 2	13.9	101	58.9	95	6	4	
FA 883-323	59.6	41.7	43 2	13.3	103	61.0	90	4	4	
FA 888-432	61.3	42.0	45 3	13.3	103	59.3	85	7	4	
NP8 86748	61.0	40.3	47 2	14.0	112	57.6	90	6	4	

DEFICIENCIES 1W 1W SM WP SX DU

AVG OF STANDARDS 59.8 41.8 1 13.8 53.7 87

MINOR FAULTING VALUES 57.6 39.7 6 12.5 52.7 77

MAJOR FAULTING VALUES 56.7 36.7 11 11.5 51.7 72

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=MINNESTOA STATION=CROOKSTON NURSERY=UNIFORM

TABLE 3

VARIETY	STD	TEST WT	1000 K.WT	% LS _{SM}	WHT PRO	HARD NESS	SEMO EXTR	DUST COLOR	MIXO SCR	SCORE ***	DEFICIENCIES TW KW SM WP SX DU
FJORD		62.5	42.6	65	1	14.5	109	95	6	4	
LLOYD	S	60.3	47.6	62	1	14.0	102	85	5	4	
MEDORA		61.7	43.7	63	1	15.2	105	85	5	4	
MINDUM		62.7	44.8	65	2	14.4	104	70	3	1	MJ
MONROE		61.8	47.1	71	1	14.7	103	90	4	4	
RUSBY		62.4	41.5	55	1	14.5	102	85	2	4	MI
SCEPTRE		61.3	44.2	48	3	14.5	96	85	4	4	
STOCKHOLM		61.6	39.4	46	2	13.8	96	66.8	4	4	MI
VIC		61.9	47.4	70	1	14.8	102	90	4	4	
WARD	S	62.1	40.3	55	1	14.5	103	85	3	4	MI
D 8172		62.5	42.0	45	1	14.7	103	85	5	4	
D 8191		62.2	43.7	57	1	14.1	99	85	5	4	
D 8193		62.0	45.7	65	2	14.7	103	90	6	4	
D 8261		61.1	46.3	60	2	13.9	94	90	5	4	
D 8263		61.3	44.6	57	2	13.8	95	95	5	4	
D 8269		60.4	46.3	52	1	14.1	95	66.2	5	4	
D 8291		60.6	42.0	39	2	14.1	97	65.3	5	4	
D 8302		61.7	42.7	47	2	13.9	102	85	3	3	MI
D 8304		60.0	39.7	41	1	15.1	103	90	5	2	MJ
D 8309		62.1	40.7	46	3	14.7	102	80	5	4	MI
D 8311		62.8	30.0	48	2	15.2	106	80	6	3	MI
D 8370		61.6	38.3	25	3	13.1	96	64.4	3	3	MJ
D 8374		61.3	44.4	43	2	13.8	98	63.8	3	3	MJ
D 8380		62.6	40.7	34	2	13.4	93	85	4	4	
D 81151		62.1	43.5	52	1	13.7	96	65.5	4	4	MI
D 81154		61.5	42.6	51	1	14.4	98	67.0	4	4	
D 83103		62.1	47.6	69	1	14.1	97	66.5	4	4	
FA 883-323		61.8	46.7	66	1	14.2	99	65.9	4	4	
FA 884-326		61.2	45.0	64	1	13.3	101	85	4	4	
NFB 86748		61.3	42.4	57	1	14.6	97	62.8	4	3	MI

DEFICIENCIES

TW KW SM WP SX DU
 AVG. OF STANDARDS 61.2 43.9 1 14.3 66.1 85
 MINOR FAULTING VALUES 59.0 41.8 6 12.5 63.1 75
 MAJOR FAULTING VALUES 58.1 38.8 11 11.5 62.1 70

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP
STATE=MINNESTOA STATION=MORRIS NURSERY=UNIFORM

TABLE 4

VARIETY STD	TEST WT	1000 K.WT	% LG_SM	WHT PRO	HARD NESS	SEMO EXTR	DUST COLOR	MIXO SCR	SCORE ***	TW KW SM WP SX DU	DEFICIENCIES
FJORD	61.5	42.0	52	3	14.4	100	62.6	100	5	4	
LLOYD	59.0	45.0	49	3	14.6	97	61.6	95	5	4	
MEDORA	61.0	43.1	57	3	14.2	99	62.3	90	4	4	
MINDUM	61.9	40.2	43	4	13.5	93	65.4	75	2	1	MJ
MONROE	60.9	46.3	62	3	14.1	96	65.4	90	5	4	
RUSBY	61.2	40.7	53	4	14.3	102	63.6	90	2	4	MI
SCEPTRE	60.2	40.3	47	3	14.4	100	63.0	95	4	4	MI
STOCKHOLM	59.7	41.5	32	5	14.4	99	62.6	90	4	4	MI
VIC	60.6	46.5	59	3	14.9	99	64.2	90	5	4	MI
WARD	61.2	40.0	51	4	13.9	93	64.2	90	2	4	MI
D 8172	61.0	40.3	38	4	14.8	98	66.2	85	4	4	MI
D 8191	60.1	42.2	52	4	14.0	100	63.0	85	3	4	MI
D 8193	60.8	40.8	51	4	14.4	94	63.6	90	4	4	MI
D 8261	59.9	41.7	48	4	14.1	95	64.1	95	4	4	MI
D 8263	58.8	42.9	49	4	14.1	96	61.4	95	4	4	MI
D 8269	58.6	40.0	38	5	14.3	91	62.6	85	4	4	MI
D 8291	58.9	39.8	33	4	13.7	88	62.1	95	4	4	MI
D 8302	59.9	41.8	45	5	14.0	100	61.5	90	4	4	MI
D 8304	59.2	41.3	39	5	14.6	92	60.5	100	5	4	MI
D 8309	60.0	38.9	43	4	15.1	96	61.9	85	6	4	MI
D 8311	61.6	43.5	47	3	14.7	101	63.6	85	6	4	MJ
D 8370	60.4	36.2	21	7	12.9	93	61.6	85	3	3	MI
D 8374	59.7	41.0	28	5	14.4	94	62.8	95	5	4	
D 8380	60.0	41.8	31	5	13.9	93	65.3	95	4	4	
D 81151	60.6	44.2	52	4	13.9	95	66.4	95	3	4	
D 81154	60.2	41.8	44	3	14.9	95	64.2	100	4	4	
D 83103	60.2	41.8	45	4	14.1	90	64.8	100	5	4	
FA 883-323	59.2	41.7	45	4	14.8	97	63.8	95	4	4	MI
FA 884-326	58.2	38.3	34	5	14.9	98	62.1	85	6	3	MJ
NFB 86768	57.8	38.8	43	3	16.1	95	60.1	90	5	3	MI

DEFICIENCIES TW KW SM WP SX DU
AVG OF STANDARDS 60.3 43.8 3 14.5 63.3 92
MINOR FAULTING VALUES 58.1 41.7 8 12.5 60.3 82
MAJOR FAULTING VALUES 57.2 38.7 13 11.5 59.3 77

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=MONTANA STATION=BOZEMAN NURSERY=UNIFORM

TABLE 5

VARIETY STD	TEST WT	1000 K.WT	% LG SM	WHT PRO	HARD NESS	SEMO EXTR	DUST COLOR	MIXO SCR	SCORE ***	DEFICIENCIES TW KW SM WP SX DU
FJORD	62.2	46.3	69 0	15.2	103	64.4	95	4	4	
LLOYD	62.6	54.6	80 0	13.5	97	66.1	85	4	4	
MEDORA	63.0	46.5	69 1	15.6	98	65.1	90	4	4	
MINDUM	62.5	44.2	56 2	15.4	99	64.5	70	2	1	MJ
MONDE	62.2	48.1	73 2	14.9	98	65.0	85	3	4	
RUGBY	62.2	45.0	62 0	15.8	100	64.4	85	2	4	MI
SCEPTRE	61.7	45.5	66 1	15.4	99	65.5	80	3	4	
STOCKHOLM	62.1	47.6	60 0	14.1	96	65.1	90	4	4	
VIC	61.8	47.4	72 0	15.3	96	65.9	90	4	4	
WARD	61.4	39.7	48 1	15.7	97	64.1	90	2	3	MJ
D 8172	62.8	47.8	66 1	15.4	103	68.5	85	3	4	
D 8191	63.0	49.3	75 1	14.7	103	66.2	85	4	4	
D 8193	62.3	47.6	73 0	14.9	100	67.3	90	5	4	
D 8261	62.6	48.8	71 0	13.7	93	68.2	85	4	4	
D 8263	63.0	49.3	73 1	13.6	87	68.2	95	5	4	
D 8269	62.3	44.4	64 0	13.8	97	67.3	80	4	4	MI
D 8291	60.4	49.8	48 1	14.1	89	66.1	90	3	4	
D 8302	62.4	45.7	64 1	14.8	100	65.3	85	3	4	
D 8304	61.4	43.9	66 0	15.3	97	63.8	95	6	4	MI
D 8309	63.1	46.7	71 0	14.6	100	67.4	80	7	4	
D 8311	62.8	45.8	63 0	15.4	106	64.2	80	7	4	
D 8370	62.3	43.1	51 0	13.7	97	63.9	80	3	4	MI
D 8374	62.8	48.5	67 2	13.6	102	66.2	85	4	4	
D 8380	63.0	43.5	61 1	13.4	94	65.6	95	4	4	MI
D 81151	61.7	44.6	71 1	14.8	96	67.6	90	3	4	MI
D 81154	62.2	45.2	65 2	14.2	94	66.4	100	5	4	
D 83103	62.6	52.1	76 0	14.1	94	66.5	90	5	4	
FA 883-323	62.3	48.3	68 0	14.8	103	66.8	85	5	4	
FA 884-326	62.1	49.3	70 0	13.5	102	67.7	85	5	4	
NPD 86748	60.6	44.1	73 0	15.3	98	62.4	85	4	4	MI

DEFICIENCIES

TW KW SM WP SX DU
 AVG OF STANDARDS 61.9 47.2 0 14.8 65.4 80
 MINOR FAULTING VALUES 59.7 45.1 5 12.5 62.4 78
 MAJOR FAULTING VALUES 50.8 42.1 10 11.5 61.4 73

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=MONTANA STATION=SIDNEY NURSERY=UNIFORM

TABLE 6

VARIETY STD	TEST WT	1000 K.WT	% LG_SM	WHT PRO	HARD NESS	SEMO EXTR	DUST COLOR	MIXO SCR	SCORE ***	DEFICIENCIES TW KW SM WP SX DU
FJORD	63.8	44.2	62	1	13.9	94	63.3	105	7	4
LLOYD	62.2	42.4	23	2	13.0	85	63.0	95	6	4
MEDORA	63.2	40.7	50	0	14.1	94	63.0	95	6	4
MINDUM	64.3	40.8	45	1	13.8	81	65.1	80	3	1
MONROE	62.9	47.6	59	0	14.5	93	63.3	95	6	4
RUSBY	63.4	42.4	53	2	14.2	90	63.3	90	3	4
SCEPTRE	61.5	39.1	39	2	14.1	88	61.5	90	6	4
STOCKHOLM	63.0	42.6	32	2	13.3	89	63.0	95	6	4
VIC	63.8	45.5	55	2	14.1	89	65.1	95	6	4
WARD	63.6	39.7	41	2	14.1	91	63.8	95	3	4
D 8172	63.2	42.0	29	2	14.2	94	66.7	90	6	4
D 8191	63.0	45.8	59	1	13.8	87	66.2	90	6	4
D 8193	63.7	42.0	58	2	13.7	86	64.7	95	7	4
D 8261	63.6	40.0	35	2	13.1	84	66.1	100	6	4
D 8263	64.2	44.2	53	1	13.2	83	63.8	100	6	4
D 8269	62.7	40.5	12	2	13.6	84	67.7	95	6	4
D 8291	61.4	35.8	10	3	13.4	82	62.6	95	5	3
D 8302	62.6	41.5	39	2	13.2	87	61.8	95	4	4
D 8304	62.5	40.7	41	2	13.9	88	63.0	105	8	4
D 8309	63.5	39.8	47	2	13.9	93	66.8	90	8	4
D 8311	63.8	42.7	45	0	14.7	95	63.6	85	8	2
D 8370	62.6	33.9	14	5	12.7	83	63.4	85	3	1
D 8374	63.7	41.3	42	3	13.3	87	67.9	95	5	4
D 8380	63.7	38.0	30	3	12.8	87	67.0	100	5	4
D 81151	62.2	37.6	27	2	13.6	88	65.0	100	5	4
D 81154	62.8	38.2	34	2	13.7	85	66.5	100	7	4
D 83103	63.2	43.3	52	1	13.1	84	66.7	100	7	4
FA 883-323	63.9	41.2	48	0	12.9	82	67.1	100	6	4
FA 884-326	63.0	44.6	55	1	12.7	89	67.1	90	7	4
NFB 86748	63.8	42.4	50	0	14.0	89	64.5	95	7	4

DEFICIENCIES TW KW SM WP SX DU
 AVG OF STANDARDS 63.2 42.5 2 13.7 64.0 95
 MINOR FAULTING VALUES 61.0 40.4 7 12.5 61.0 85
 MAJOR FAULTING VALUES 60.1 37.4 12 11.5 60.0 80

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=MONTANA STATION=CONRAD NURSERY=UNIFORM

TABLE 7

VARIETY STD	TEST WT	1000 K.WT	% LS _{SM}	WHT PRO	HARD NESS	SEMD EXTR	DUST COLOR	MIXD SCR	SCORE ***	DEFICIENCIES TW KW SM WP SX DU
FJORD	63.0	41.2	55	2	12.5	126	90	5	3	MI
LLOYD	63.2	47.1	63	2	10.7	110	85	3	2	MJ
MEDORA	62.2	44.8	65	1	13.1	120	90	4	2	MJ
MINDUM	63.6	40.8	52	2	13.5	88	75	3	2	MI
MONROE	61.8	45.7	64	2	12.1	106	90	4	3	MI
RUGBY	62.5	43.9	60	3	13.1	117	80	2	4	MJ
SCEPTRE	62.2	43.7	58	2	12.6	107	80	4	2	MI
STOCKHOLM	63.9	43.9	50	1	12.0	89	80	3	3	MI
VIC	62.8	43.5	47	1	13.4	109	90	6	4	
WARD	62.5	41.8	46	2	12.7	113	85	2	4	MI
D 8172	62.2	39.1	31	3	12.4	126	80	4	3	MI
D 8191	63.2	45.5	64	2	12.8	86	75	4	2	MI
D 8193	62.2	41.7	54	1	13.0	95	85	6	4	
D 8261	64.0	42.6	60	1	11.4	92	85	3	2	MJ
D 8263	64.2	46.1	63	0	12.2	93	90	4	3	MI
D 8269	62.7	44.6	47	0	12.2	86	80	4	3	MI
D 8291	61.1	37.6	12	3	12.5	88	95	5	1	MI
D 8302	62.7	43.5	57	1	12.8	93	80	4	4	MI
D 8304	62.3	41.8	52	1	13.5	99	90	6	3	MI
D 8309	62.9	39.7	39	1	13.0	95	80	6	4	MI
D 8311	62.9	42.6	48	1	13.6	93	80	7	4	
D 8370	62.6	38.2	18	2	11.4	80	75	3	1	MJ
D 8374	62.1	41.8	53	1	13.4	96	90	4	4	MI
D 8380	63.5	40.7	36	1	11.9	89	85	3	3	MI
D 81151	62.6	41.7	57	2	12.6	87	85	3	4	MI
D 81154	63.2	41.8	52	1	13.3	94	90	5	4	MI
D 83103	63.4	46.1	70	0	11.6	83	85	4	3	MI
FA 883-323	63.1	44.2	59	0	13.1	84	85	4	4	
FA 884-326	63.6	46.9	70	1	11.9	94	80	4	3	MI
NFB 86748	62.6	43.3	64	0	13.5	94	85	4	4	

DEFICIENCIES
 TW KW SM WP SX DU
 AVG OF STANDARDS 62.8 44.1 2 12.3 67.2 87
 MINOR FAULTING VALUES 60.6 42.0 7 12.5 64.2 77
 MAJOR FAULTING VALUES 59.7 39.0 12 11.5 63.2 72

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

TABLE 8

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=NORTH DAKOTA STATION=WILLISTON NURSERY=UNIFORM

VARIETY STD	TEST WT	1000 K.WT	% LG SM	WHT PRO	HARD NESS	SEMO EXTR	DUST COLOR	MIXO SCR	SCORE ***	DEFICIENCIES TW KW SM WP SX DU
CROSBY	61.0	37.5	29 1	15.9	102	55.8	85	3	2	MI MJ
FJORD	62.4	42.6	53 1	15.6	93	62.1	100	8	4	
LAKER	60.9	50.0	75 3	15.8	100	62.4	80	8	2	MI
LLOYD	61.4	45.5	52 1	14.5	92	62.4	95	7	4	
MEDORA	61.4	37.7	24 1	16.3	103	60.6	95	7	4	
MINDUM	61.6	39.2	46 1	15.3	87	64.3	75	3	1	MJ
MONROE	60.8	40.5	36 1	15.2	95	63.8	95	7	4	
RUGBY	61.5	36.6	25 2	15.7	100	62.0	90	3	4	MI
SCEPTRE	61.0	37.2	36 1	15.8	94	61.5	90	7	4	MI
STOCKHOLM	61.8	42.4	32 1	14.7	91	63.4	90	7	4	
VIC	61.6	39.4	28 0	15.5	99	64.8	95	7	4	
WARD	61.7	36.8	25 1	15.7	98	58.6	90	4	3	MI
D 8172	61.4	36.5	18 1	15.6	100	64.5	90	7	4	MI
D 8191	61.4	40.0	47 1	15.4	95	64.3	85	7	4	
D 8193	61.7	40.3	46 1	15.3	93	62.7	90	8	4	
D 8261	61.7	44.4	56 0	15.2	93	63.8	100	8	4	
D 8263	61.5	42.2	39 1	14.8	89	61.3	100	7	4	
D 8269	61.2	44.4	36 0	15.5	96	64.5	85	7	4	
D 8291	61.0	39.5	24 1	15.3	92	60.7	95	7	4	
D 8302	61.4	37.9	21 1	14.9	101	61.5	95	5	4	MI
D 8304	60.9	36.2	12 1	15.8	91	59.4	100	8	4	MI
D 8309	60.8	36.8	26 0	15.5	97	63.1	90	8	4	MI
D 8311	62.3	38.3	19 1	15.5	95	61.0	85	8	4	MI
D 8370	60.6	35.1	17 2	14.4	90	61.2	85	6	3	MJ
D 8374	61.6	43.5	58 2	14.9	94	64.3	90	6	4	
D 8380	62.2	38.8	27 2	14.3	98	63.7	95	6	4	
D 81151	62.0	37.5	15 2	15.0	97	62.9	100	7	4	MI
D 81154	61.8	37.3	23 1	15.1	96	62.6	100	6	4	MI
D 83103	61.0	41.5	45 1	14.8	90	63.2	100	6	4	
FA 883-323	61.8	40.0	30 2	14.5	94	63.6	95	6	4	
FA 884-326	60.8	39.7	30 2	13.5	89	63.1	95	6	4	
NPB 86748	61.3	39.2	36 2	15.5	93	61.4	90	7	4	

DEFICIENCIES TW KW SM WP SX DU

AVG OF STANDARDS 61.6 40.6 1 15.2 61.9 93

MINOR FAULTING VALUES 59.4 38.5 6 12.5 58.9 03

MAJOR FAULTING VALUES 58.5 35.5 11 11.5 57.9 78

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=NORTH DAKOTA STATION=CARRINGTON NURSERY=UNIFORM

TABLE 9

VARIETY STD	TEST WT	1000 K.WT	% LS SM	WHT PRO	HARD NESS	SEMO EXTR	DUST COLOR	MIXO SCR	SCORE ***	DEFICIENCIES TW KW SM WP SX DU
FJORD	56.7	31.2	12 8	15.4	87	61.2	105	8	4	
LLOYD	47.1	22.8	2 18	17.6	93	53.9	100	8	2	
MEDORA	50.5	23.6	4 14	17.4	87	55.3	85	5	2	MI MI MI
MINDUM	54.3	29.7	14 7	16.0	84	60.3	95	7	4	
MONROE	54.5	28.3	14 7	14.9	74	59.4	95	7	4	
RUGBY	58.1	33.0	23 5	14.8	98	62.1	95	3	4	
SCEPTRE	56.0	33.9	33 5	15.2	92	60.6	95	7	4	
STOCKHOLM	50.9	23.8	2 19	16.5	84	56.9	95	8	4	MI MI
VIC	54.9	29.2	11 8	16.1	89	59.8	95	8	4	
WARD	55.2	29.8	8 8	15.7	98	59.6	95	4	4	
D 8172	55.8	29.3	5 10	15.8	91	61.0	90	4	4	
D 8191	53.8	28.4	13 8	15.6	80	59.8	90	8	4	
D 8193	52.6	26.3	8 9	16.3	91	59.9	95	8	4	
D 8261	49.4	23.0	3 17	17.5	92	56.2	100	8	4	MI MI MI
D 8263	51.0	22.2	3 15	16.9	74	57.5	100	8	4	MI
D 8269	52.3	26.7	3 12	15.8	88	60.6	95	8	4	
D 8291	52.4	26.0	3 14	14.9	79	60.0	100	8	4	
D 8302	52.6	27.0	8 10	16.4	91	55.1	95	5	4	
D 8304	54.8	26.4	3 13	16.5	85	57.3	105	8	4	
D 8309	54.5	31.2	11 7	16.7	89	61.2	90	8	4	
D 8311	57.0	30.7	13 6	16.4	92	60.6	85	8	2	MI
D 8370	53.7	24.4	3 16	15.3	86	57.3	90	8	4	MI
D 8374	52.7	24.6	2 15	15.5	87	58.9	100	8	4	MI
D 8380	51.8	22.4	1 20	15.9	71	55.7	100	8	4	MI MI
D 81151	52.2	25.8	7 10	16.0	83	57.1	100	7	4	
D 81154	54.9	26.6	4 12	16.3	88	58.6	105	8	4	
D 83103	50.1	24.5	2 20	16.6	84	56.9	100	8	4	MI MI MI
FA 883-323	54.2	30.6	10 10	15.7	87	61.4	100	8	4	
FA 884-326	51.4	27.8	7 10	16.2	84	57.1	90	8	4	
NPB 86748	51.3	26.3	4 13	17.1	89	46.7	95	8	2	MJ

DEFICIENCIES

TW KW SM WP SX DU

AVS OF STANDARDS 52.4 27.3 11 16.5 57.8 97

MINOR FAULTING VALUES 50.2 25.2 16 12.5 54.8 87

MAJOR FAULTING VALUES 49.3 22.2 21 11.5 53.8 82

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

TABLE 10 STATE=IDAHO STATION=AREDEEN NURSERY=WESTERN REGIONAL DURUM

VARIETY STD	TEST WT	1000 K.WT	% LG_SM	WHT PRO	HARD NESS	SEMO EXTR	DUST COLOR	MIXO SCR	SCORE ***	DEFICIENCIES				
										TW	KW	SM	WP	SX DU
ND STD VIC S	60.9	38.2	45 0	15.4	107	64.9	90	6	4					
CARD 'S'	57.2	34.1	45 3	13.3	88	59.8	60	3	1		MJ	MI	MJ	MJ
DUROX	62.5	41.0	71 2	14.2	87	63.9	90	1	4					
IRRIDUR	60.1	39.1	57 3	13.9	87	59.0	85	3	2				MJ	
LAKER	62.8	49.8	80 2	13.0	85	65.0	80	4	2				MI	MI
LLOYD	60.8	43.9	63 2	12.5	81	62.7	90	3	3			MJ		MJ
MODOC	58.8	31.1	43 2	13.6	51	65.4	40	4	1					
VIC 1A	60.7	40.7	44 3	13.3	77	63.8	100	5	4					
WAID	57.0	31.2	18 6	13.8	83	59.1	90	2	1		MJ	MJ	MI	MJ
YAV 'S'	62.7	45.2	65 2	11.8	80	63.3	75	3	1			MI		MJ
YAVAROS 79	60.9	35.1	65 2	13.3	51	63.1	40	5	1			MI		MJ
YGA 'S'	62.7	38.2	45 3	12.3	85	63.8	85	3	3				MI	
D 790209	61.0	38.6	47 2	12.7	83	63.8	90	3	4					
FLD 87050	57.7	43.3	64 2	13.7	84	60.3	75	4	1		MJ		MJ	MJ
FLD 87306	52.4	31.0	15 6	14.4	75	55.9	95	3	1		MJ	MJ	MI	
FLD 87336	60.2	41.5	54 2	12.6	87	63.5	100	6	4					
HD 810466	61.6	39.4	42 3	13.0	78	63.8	90	4	4					
PBS 02008	59.8	44.2	64 2	15.0	87	61.6	85	7	3				MI	MI
PBS 02105	59.2	36.9	46 3	14.3	87	60.1	95	6	2					MJ
PBS 02120	62.0	48.5	83 2	13.4	84	64.8	85	2	4					MJ
PBS 03113	61.2	43.3	62 2	14.1	91	59.4	90	5	2			MI	MJ	MJ
PBS 03215	63.4	47.4	77 1	12.5	81	60.4	70	4	1					MJ
PBS 03429	59.2	40.7	62 1	14.3	87	60.6	85	5	2				MI	MJ
PBS 03509	59.8	44.2	72 2	14.1	85	61.5	70	6	1					MJ
TL 730471	58.6	38.0	40 3	13.7	83	57.9	90	0	2		MI			MJ
TL 80022-1	59.5	37.9	37 3	13.8	84	60.6	90	3	2					MI
TL 801045	62.2	49.0	80 2	13.2	79	63.3	80	2	2					
TL 801065	60.5	44.8	70 3	13.5	84	63.0	90	1	4					MJ
TL 820100	59.6	40.0	63 3	14.2	85	60.7	95	4	2					
TL 82-112	61.0	41.7	61 3	12.7	60	63.4	60	3	1					MJ
UC 000606	60.2	42.9	63 3	13.9	93	61.9	85	2	3					MI
UC 000640	58.8	43.1	55 2	13.4	87	61.5	95	0	3					MI
UC 000642	60.1	41.2	53 2	13.3	78	62.4	85	2	2					
UC 000686	62.5	42.9	79 1	12.8	82	61.4	90	4	3					MI
UC 000714	63.5	40.5	58 2	11.8	84	64.4	85	3	0				MI	
WFB 881	55.6	35.6	44 2	15.0	77	60.6	95	7	1		MJ	MI		MJ

DEFICIENCIES TW KW SM WP SX DU
 AVG OF STANDARDS 60.9 38.2 0 15.4 64.9 90
 MINOR FAULTING VALUES 59.7 36.1 5 12.5 61.9 80
 MAJOR FAULTING VALUES 57.0 33.1 10 11.5 60.9 75

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

TABLE 11 STATE=WASHINGTON STATION=ROYAL SLOPE NURSERY=WESTERN REGIONAL DURUM

VARIETY	STD	TEST WT	1000 K.WT	% LG SM	WHT PRO	HARD NESS	SEMO EXTR	DUST COLOR	MIXO SCR	SCORE ***	TW	KW	SM	WP	SX	DU
STD VIC	S	60.9	38.2	45	0	15.4	107	64.9	90	3	MJ					
CARC'S		61.7	43.1	16	3	12.3	90	64.1	60	1		MI				MJ
DUROX		61.1	50.5	78	2	13.0	101	63.3	85	4						
IRRIDUR		63.4	43.9	68	2	13.3	95	62.6	85	3						MI
LAKER		63.6	51.3	80	2	12.8	84	67.0	80	4						
LLOYD	S	62.6	51.8	72	2	12.9	96	66.4	85	3						
MODOC		62.8	42.4	67	2	12.9	73	63.5	60	1		MI				MJ
TURBO		63.6	51.5	80	3	13.0	99	64.5	85	4						
VIC 1A		64.1	49.8	72	2	12.5	88	68.2	90	3		MI				
WAID		62.6	41.5	60	3	12.6	92	63.6	80	4						
YAV 'S'		63.9	49.5	74	2	12.3	87	65.1	75	1		MI				MI
YAVAROS 79		63.8	51.0	77	2	12.3	80	65.3	70	1						MJ
YSA 'S'		64.4	43.1	70	3	12.0	96	66.8	80	2						
D 79209		63.1	42.9	65	2	12.6	90	66.2	85	4						
FLD 87050		62.1	51.3	78	2	13.8	89	64.4	70	1						MJ
FLD 87306		62.2	44.4	59	3	13.0	98	62.6	85	1						MI
FLD 87336		62.6	46.5	74	3	12.7	94	64.2	100	4						
HD 810466		64.0	47.1	71	2	12.3	82	65.8	85	3		MI				
PBS 2008		63.0	47.1	73	3	13.3	94	66.7	75	3						MI
PBS 2105		62.3	54.3	86	2	13.1	92	63.0	75	2						MI
PBS 2120		62.6	48.8	78	3	13.6	93	63.3	80	3						
PBS 3113		64.1	46.7	79	2	13.4	91	62.3	85	3						MI
PBS 3215		63.1	49.0	75	2	13.3	100	64.4	65	1						MJ
PBS 3429		63.0	48.8	77	2	13.6	102	62.7	80	3						
PBS 3509		62.2	50.8	83	1	13.8	99	63.0	70	4						MJ
T 83 136		61.7	44.1	71	2	12.1	87	63.2	70	3						MJ
T 83 138		63.6	47.1	22	2	13.0	93	65.3	80	4						
TL 730471		63.4	43.3	68	2	12.5	75	64.7	55	1						MI
TL 801045		63.8	51.8	80	2	13.4	97	63.2	80	4						MJ
TL 801065		62.8	51.0	76	3	13.4	94	65.6	75	2						
TL 820100		63.0	42.0	68	2	13.1	92	64.4	85	3						MI
TL 820112		63.4	47.4	78	1	13.1	91	65.0	80	4		MI				
UC 606		63.1	44.4	69	2	13.6	92	63.6	80	3						
UC 640		62.7	51.5	78	2	12.8	83	65.6	80	4						
UC 642		63.2	47.6	75	3	13.5	92	65.8	80	3						
WPB 881		62.5	51.0	84	2	14.4	95	66.4	85	4						
WPB 884		62.6	51.0	84	2	14.3	90	65.3	85	4						

DEFICIENCIES TW FW SM WP SX DU
 AVG OF STANDARDS 61.7 45.0 1 14.1 65.6 88
 MINOR FAULTING VALUES 59.5 42.9 6 12.5 62.6 78
 MAJOR FAULTING VALUES 58.6 39.9 11 11.5 61.6 73

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=NORTH DAKOTA STATION=FARGO NURSERY=FIELD PLOT

TABLE 12

VARIETY-----		STD	WT	K.WT	G.	#/BU	TEST	1000	SIZING	WHT	WHT	HARD-	FALL	TOTL	SEMO	SPK	ASH	COLOR	SCORE	MIXO
					%	%			%	%	%	NESS	NO	EXTR	%	EXTR	%			
LLOYD			60.1	38.0	26	3	1.64	14.6	104	338	77.5	59.0	33	0.67	95	5				
RUGBY			61.9	40.7	36	2	1.49	14.5	120	400	78.6	60.2	23	0.58	90	1				
VIC	S		61.5	44.8	58	2	1.50	15.0	115	400	76.9	60.4	47	0.61	95	5				
WARD			61.9	41.0	47	1	1.55	14.9	118	400	78.8	60.7	30	0.60	90	1				

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=NORTH DAKOTA STATION=FARGO NURSERY=FIELD PLOT

VARIETY-----		STD	SEMO	VIS	COL	COOK	WT	NESS	FIRM-	RES	SCORE	***	TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
			%			G.		%	%	%	%	%											
LLOYD			13.4	9.5	31.3	6.52	5.8	3															
RUGBY			13.6	9.5	33.3	5.23	5.6	3															
VIC	S		14.0	9.5	30.5	7.03	5.3	4															
WARD			14.0	9.0	32.9	5.25	5.7	3															

DEFICIENCIES TW FW SM UP TX SX DU SE SP VI FR
 AVE OF STANDARDS 61.5 44.8 2 15.0 76.9 60.4 95 47 14.0 9.5 7.03
 MINOR FAULTING VALUES 59.3 42.7 2 12.5 74.4 57.4 85 52 11.5 8.5 5.53
 MAJOR FAULTING VALUES 58.4 39.7 12 11.5 73.4 56.4 80 62 11.0 8.0 4.03
 **EVALUATION 1 NO PROMISE, 2=LITTLE PROMISE, 3-GOOD PROMISE, 4-GOOD PROMISE

1987 CRCP

STATE=NORTH DAKOTA STATION=MINOT NURSERY=FIELD PLOT

TEST		1000	SIZING		WHT	WHT	HARD-- FALL		TOTAL	SEMO	SPK	ASH	DUST	MIXO
VARIETY-----		STD	WT	K.WT	LG	SM	ASH	PRO	NESS	NO	EXTR	EXTR	%	SCORE
		#/BU	G.	%	%	%	%	%	SEC	%	%	%	%	
LLOYD		61.4	44.4	43	0	1.24	12.8	123	400	77.8	59.6	50	0.53	6
RUGBY		62.6	40.0	44	0	1.24	13.8	129	400	77.9	59.9	33	0.50	1
VIC		62.4	43.7	45	0	1.24	13.9	128	400	77.7	59.7	23	0.50	6
WARD		62.9	43.3	49	0	1.27	14.2	127	400	76.7	59.0	27	0.49	2

1987 CROP

STATE=NORTH DAKOTA STATION=MINOT NURSEY=FIELD PLOT

VARIETY-----	STD	SEM PRO %	VIS COL	COOK WT G.	FIRM- NESS	RES G.	SCORE ***	TW KW SM WP TX SX DU SK SP VI FR
LLOYD		11.8	9.5	31.3	6.91	5.5	3	NJ MI
RUGBY		12.9	9.5	32.9	5.64	5.5	4	MI
VIC	S	13.3	9.5	31.8	5.88	5.8	4	
HARD		13.1	9.0	33.0	5.49	5.5	4	

DEFICIENCIES	TW	FW	SM	MF	TX	SX	NO	GF	VF	FR
AVG OF STANDARDS	62.4	43.7	0	13.9	77.7	59.7	90	13.3	9.5	5.61
OTHER FAULTING VALUES	66.2	41.6	5	12.5	75.2	56.7	80	30	11.5	4.30
MAJOR FAULTING VALUES	59.3	33.6	10	11.5	74.2	55.7	75	30	11.0	3.63

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=NORTH DAKOTA STATION=LANGDON NURSERY=FIELD PLOT

TABLE 14

VARIETY	TEST 1000 SIZING WHT WHT WHT HARD- FALL TOTL SEMO SEMO DUST MIXO														
	STD	WT	K.WT	LG	SM	ASH	PRO	NESS	NO	EXTR	EXTR	SPK	ASH	COLOR	SCORE
	#/BU	G.	%	%	%	%	%		SEC	%	%	%	%		
CANDO	57.5	33.4	24	4	1.91	13.4	100	267	75.4	57.8	43	0.72	80	2	
LLOYD	52.7	31.9	19	5	2.13	15.3	87	304	74.8	56.3	63	0.82	90	6	
MONROE	55.4	40.0	50	2	2.03	15.5	98	360	76.3	58.8	99	0.77	80	6	
RUGBY	58.2	35.5	36	3	1.93	13.9	101	338	78.1	59.8	90	0.73	85	3	
VIC	56.8	34.6	37	3	1.99	14.6	94	275	76.2	57.8	77	0.74	85	5	
WARD	59.5	37.7	47	2	1.90	14.3	98	307	78.2	60.7	97	0.75	80	3	

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=NORTH DAKOTA STATION=LANGDON NURSERY=FIELD PLOT

VARIETY	SEM0		VIS	COOK		FIRM-		SCORE	DEFICIENCIES											
	STD	PRO		COL	WT	NESS	RES		TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR	
		%					G.													
CANDO		12.5	9.5	32.1	5.08	6.0	3											MI		
LLOYD		14.2	9.0	30.7	8.29	5.5	3													
MONROE		14.8	9.0	31.5	8.21	5.6	3											NJ		
RUGBY		12.8	9.5	32.5	6.41	5.6	3											MI		
VIC	9	13.8	9.5	30.5	8.10	5.6	4													
WARD		10.2	9.5	31.5	6.93	6.0	2											MI		

DEFICIENCIES

AVG OF STANDARDS 56.8 31.6 3 14.6 76.2 57.8 85 77 13.8 9.5 8.10
 MINOR FAULTING VALUES 54.6 32.5 8 12.5 73.7 54.8 75 87 11.5 8.5 6.60
 MAJOR FAULTING VALUES 53.7 29.5 13 11.5 72.7 53.9 70 92 11.0 8.0 5.85

*EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

STATE=CALIFORNIA STATION=TULELAKE NURSERY=PRELIMINARY

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	60.9	38.2	0	15.4	64.9	90
MINOR FAULTING VALUES	58.7	36.1	5	12.5	61.9	80
MAJOR FAULTING VALUES	57.8	33.1	10	11.5	60.9	75

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=CALIFORNIA STATION=IMPERIAL VALLEY NURSERY=ADVANCED

TABLE 16

-----VARIETY-----																		
TEST	1000	SIZING	WHT	WHT	HARD-	FALL	TOTL	SEMO	SPK	ASH	DUST	MIXO						
WT	K.WT	LG	SM	ASH	PRO	NESS	NO	EXTR	EXTR	%	%	SCORE						
#/BU	G.	%	%	%	%	%	SEC	%	%	%	%							
S	63.8	43.7	62	1	1.72	13.6	134	400	79.2	57.1	37	0.64	1					
ALDURA	65.6	45.0	72	0	1.64	12.7	123	400	79.3	61.5	30	0.61	3					
ALDURA 84	63.5	44.2	67	3	1.80	14.7	121	400	78.1	61.1	33	0.68	3					
FRIGATE 'S'	63.1	50.8	80	2	1.74	12.9	117	400	77.7	61.2	37	0.65	4					
MEXICALI	65.1	54.6	90	1	1.62	13.4	117	400	78.4	60.7	17	0.57	3					
STIFFTAIL 4	64.2	44.4	58	2	1.82	13.3	120	400	78.2	60.0	40	0.69	4					
WAHA 'S'	63.5	58.5	87	0	1.75	13.7	109	400	77.1	59.3	33	0.65	3					
WESTBRED TURBO	62.3	55.9	87	1	1.88	14.9	114	400	77.0	59.4	40	0.68	6					
WESTBRED 881	65.8	56.5	89	0	1.54	12.7	122	400	77.6	60.5	40	0.53	3					
YAVAROS	65.0	40.3	62	0	1.74	13.3	128	400	77.5	59.7	40	0.61	7					
CD 251 26	63.8	45.7	68	0	1.81	14.4	118	400	77.6	60.5	30	0.65	6					
PH 883-2	61.9	53.5	88	0	1.89	15.3	122	400	78.1	59.4	57	0.75	5					
PH 883-15	63.6	48.8	69	0	1.74	13.6	124	400	76.9	60.2	30	0.66	4					
PH 884-11	63.5	43.5	50	0	1.88	13.6	123	400	77.2	60.8	37	0.68	3					
PH 884-32	63.4	51.0	82	0	1.72	12.6	126	400	78.4	61.5	40	0.65	1					
PH 894-57	63.9	54.1	86	0	1.74	14.1	121	400	77.6	61.5	57	0.66	3					
UC 640	64.0	44.1	59	0	1.74	13.6	121	400	77.3	59.6	37	0.60	3					
UC 707	63.9	45.7	63	0	1.87	14.0	123	400	77.1	59.5	23	0.64	1					
UC 708	64.5	42.9	60	1	1.78	13.5	121	400	77.4	59.7	50	0.69	3					
UC 709	64.5	45.2	63	1	1.78	13.8	124	400	77.8	59.9	43	0.65	2					
UC 710	64.7	46.9	73	1	1.84	13.0	113	400	74.9	57.5	60	0.63	1					
UC 711	64.0	55.2	88	1	1.72	13.7	122	400	77.7	60.9	40	0.71	5					
UC 712	64.9	51.0	74	1	1.68	13.3	121	400	77.3	61.0	27	0.62	3					
UC 713	65.0	45.0	71	2	1.78	14.1	130	400	77.0	59.4	63	0.64	1					
UC 738	65.1	44.6	75	1	1.81	13.8	122	400	76.0	58.3	53	0.64	2					
UC 739	64.7	48.5	81	1	1.83	13.6	130	400	75.3	57.0	47	0.61	2					
UC 740	64.6	48.1	86	1	1.88	14.3	123	400	75.2	57.9	57	0.71	1					
UC 741	64.1	49.5	77	1	1.71	14.0	126	400	76.8	59.5	63	0.64	2					
UC 742	65.3	51.3	89	1	1.74	13.9	137	400	76.9	61.0	63	0.65	3					
UC 743																		

QUALITY DATA OF DURUM SAMPLES 1987 CROP

TABLE 16 (Cont.) STATE=CALIFORNIA STATION=IMPERIAL VALLEY NURSERY=ADVANCED

VARIETY	STD	SEM0		VIS	COOK		FIRM-	RES	SCORE	DEFICIENCIES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
		PRO	COL		WT	NESS				TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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DEFICIENCIES

AVG OF STANDARDS 63.4 47.2 2 13.2 78.4 59.1 95 37 11.7 9.3 5.56
 MINOR FAULTING VALUES 61.2 45.1 7 12.5 75.9 56.1 85 47 11.5 8.3 4.06
 MAJOR FAULTING VALUES 60.3 42.1 12 11.5 74.9 55.1 80 52 11.0 7.8 3.31

*EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1907 CROF

STATE=CALIFORNIA STATION=KINGS CO. NURSERY=ADVANCED

TABLE 17

		TEST	1000	SIZING	WHT	WHT	HARD-	FALL	TOTL	SEMO	EXTR	SPK	ASH	DUST	MIXO
		WT	K.WT	LG	SM	ASH	PRO	NESS	NO	EXTR	%	%	%	COLOR	SCORE
		#/BU	G.	%	%	%	%	SEC	SEC	%	%	%	%	%	%
-----VARIETY-----		STD	-----												
ALDURA	S	62.9	46.3	70	1	1.38	12.3	134	400	78.5	60.0	67	0.54	95	2
ALTAR 84		64.8	45.0	70	1	1.37	12.3	104	400	78.6	60.9	37	0.55	85	2
FRIGATE 'S'		64.4	46.3	71	1	1.40	13.3	114	400	78.4	59.9	67	0.56	85	2
MEXICALI	S	63.2	55.9	83	1	1.37	11.8	127	400	75.6	58.5	53	0.56	85	3
STIFFTAIL 4		64.6	56.5	85	1	1.29	12.7	131	400	78.4	60.9	63	0.53	75	3
WAHA 'S'		64.3	48.5	73	1	1.47	13.2	139	400	78.6	61.7	60	0.59	85	2
WESTBRED TURBO		64.6	55.6	85	1	1.31	12.9	128	400	75.3	57.9	37	0.51	90	2
WESTBRED 881		63.2	57.8	91	1	1.47	14.2	134	400	76.3	58.5	47	0.56	95	6
YAVAROS		65.2	54.1	80	2	1.32	12.1	140	400	76.2	58.4	77	0.53	80	3
CD 25126		65.2	41.7	64	2	1.39	12.3	133	400	76.0	57.6	67	0.54	95	3
PH 883-2		64.6	51.8	88	0	1.46	14.1	135	400	76.4	59.0	47	0.63	100	8
PH 883-15		63.0	55.9	92	2	1.55	14.0	127	400	75.9	56.5	47	0.63	85	5
PH 884-11		63.4	51.0	80	1	1.38	12.0	131	400	76.9	50.7	40	0.56	90	4
PH 884-32		64.1	45.2	57	2	1.47	12.7	128	400	76.1	58.1	77	0.59	95	3
PH 884-57		63.8	56.5	80	0	1.38	12.0	123	400	77.5	60.7	43	0.61	90	3
UC 640		63.4	53.5	86	0	1.38	12.8	131	400	76.4	57.9	60	0.53	90	1
UC 707		62.3	38.0	43	1	1.48	12.4	123	400	78.5	58.7	33	0.56	75	4
UC 708		64.4	50.8	78	1	1.41	13.6	137	386	76.5	58.7	57	0.50	80	1
UC 709		64.2	44.2	67	0	1.34	13.5	131	400	76.9	58.3	57	0.53	80	2
UC 710		64.7	49.0	77	0	1.55	14.4	118	400	74.2	56.6	67	0.57	95	3
UC 711		64.6	47.4	77	1	1.46	13.1	120	400	75.3	56.6	43	0.54	105	1
UC 712		63.9	53.2	86	0	1.41	13.0	120	379	76.3	57.2	37	0.60	95	4
UC 713		64.4	52.4	71	1	1.36	12.2	126	400	74.9	57.3	33	0.52	95	3
UC 738		65.1	46.9	66	2	1.52	13.8	116	400	77.1	56.0	40	0.58	80	1
UC 739		65.3	51.8	82	0	1.46	13.5	132	400	73.6	55.7	60	0.58	95	3
UC 740		64.8	47.8	80	0	1.49	13.9	124	400	73.2	55.1	50	0.56	100	2
UC 741		65.1	54.9	90	0	1.56	15.0	134	400	72.7	54.5	87	0.60	95	1
UC 742		64.1	51.5	83	2	1.45	13.6	128	400	76.7	56.7	63	0.58	85	2
UC 743		65.6	55.6	91	1	1.43	14.0	140	400	75.6	57.7	60	0.60	85	3

QUALITY DATA OF DURUM SAMPLES 1987 CROP

TABLE 17 (Cont.) STATE=CALIFORNIA STATION=KINGS CO. NURSERY=ADVANCED

-----VARIETY-----				STD	SEMO PRO %	VIS COL	COOK WT G.	FIRM- NESS	RES G.	SCORE ***	-----DEFICIENCIES-----										
											TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
ALDURA	S	11.4	9.5	32.0	5.12	6.7	2				MI	MI							MI		MI
ALTAR 84		10.3	8.5	31.3	5.34	7.9	1				MJ	MI							MJ		MJ
FRIGATE 'S'		12.3	9.0	32.3	5.01	6.4	4				MI										
MEXICALI	S	10.9	8.0	31.6	5.98	7.0	1					MI							MJ		MI
STIFFTAIL 4		11.4	7.5	31.4	5.83	7.1	1								MJ				MI		MI
WAHA 'S'		11.9	8.5	32.0	4.51	7.2	4				MI										
WESTERED TURBO		11.2	8.5	30.4	5.21	6.3	3												MI		MI
WESTERED 881		12.7	9.5	30.0	6.29	6.7	4					MI							MI	MJ	MJ
YAVAROS		10.6	8.0	30.5	5.31	7.4	1				MJ	MI							MI		MI
CD 25126		11.3	9.0	30.2	5.96	6.9	1														
PH 883-2		12.6	9.5	29.3	6.07	6.8	4														
PH 883-15		12.8	9.5	30.0	6.26	5.9	4														
PH 884-11		11.6	9.0	30.3	6.09	6.3	4														
PH 884-32		11.5	9.5	30.8	5.51	6.2	1				MJ								MJ	MI	
PH 884-57		11.1	8.0	29.9	6.03	6.5	2					MI								MI	
UC 640		11.3	9.0	32.2	4.97	6.5	3													MI	
UC 707		11.5	7.5	29.7	6.16	6.7	1														
UC 708		12.3	8.0	31.1	5.16	6.0	2					MI								MI	
UC 709		11.9	8.0	31.7	5.42	6.4	1												MJ	MI	MI
UC 710		12.5	9.5	30.2	7.04	6.4	3												MI		
UC 711		11.4	10.0	31.5	5.38	6.1	3					MI									
UC 712		12.0	9.5	31.2	6.22	6.3	4														
UC 713		11.2	9.5	31.3	5.85	6.4	2														
UC 738		12.1	8.0	33.7	5.10	6.3	1					MI							MI	MI	
UC 739		12.1	9.5	30.2	6.29	6.1	2														
UC 740		12.0	9.5	30.1	6.74	6.9	1												MI	MI	
UC 741		13.2	9.5	30.7	5.75	6.3	1												MJ	MJ	
UC 742		11.6	9.0	31.1	5.57	6.1	4												MJ	MJ	MJ
UC 743		12.6	8.5	30.7	5.83	6.2	4														

DEFICIENCIES
 TW KW SM WP TX SX DU SK SP VI FR
 AVG OF STANDARDS 63.0 51.1 1 12.0 77.0 59.3 90 60 11.1 8.8 5.55
 MINOR FAULTING VALUES 60.0 49.0 6 12.5 74.5 56.3 80 70 11.5 7.8 4.05
 MAJOR FAULTING VALUES 59.9 46.0 11 11.5 73.5 55.3 75 75 11.0 7.3 3.30

**EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=CALIFORNIA STATION=DELTA AREA NURSERY=ADVANCED

TABLE 18

TEST		1000	SIZING		WHT		HARD- FALL		TOL		SEMO		SEMO		DUST		MIXO	

QUALITY DATA OF DURUM SAMPLES 1987 CROP

TABLE 18 (Cont.) STATE=CALIFORNIA STATION=DELTA AREA NURSERY=ADVANCED

-----VARIETY-----				STD	SEMO	VIS	COOK	FIRM--	SCORE	-----DEFICIENCIES-----															
					PRO	COL	WT	NESS	RES	***	TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR				
					%		G.		G.																
ALDURA	S	10.3	9.0	31.8	4.51	7.0	1				MI			MI		MJ	MI			MJ					
ALTAR 84		10.0	8.0	32.5	4.64	7.7	1																		
FRIGATE 'S'		10.5	8.5	32.1	4.19	7.3	1																		
MEXICALI	S	10.2	8.0	32.1	4.51	6.9	1																		
STIFFTAIL 4		9.4	7.5	31.5	5.08	7.2	1																		
WAHA 'S'		10.6	8.5	30.9	4.26	7.1	1																		
WESTBRED TURBO		10.7	9.0	30.8	4.67	7.0	1																		
WESTERED 881		11.4	9.5	30.7	5.94	6.5	1																		
YAVAROS		9.9	7.5	31.1	4.47	7.0	1																		
CD 25126		9.8	9.0	30.6	4.86	7.2	1				MI														
PH 883-2		10.9	9.5	30.3	4.86	7.0	1				MI														
PH 883-15		11.4	9.0	30.5	5.23	6.6	2																		
PH 884-11		10.4	9.0	29.9	5.18	6.7	1																		
PH 884-32		10.5	9.5	31.1	4.67	7.6	1				MJ														
PH 884-57		9.3	8.5	31.7	4.75	7.7	1																		
UC 640		9.8	9.0	32.8	3.89	7.3	1																		
UC 707		10.2	7.5	30.8	4.97	7.5	1																		
UC 708		10.6	8.5	32.5	3.69	7.6	1																		
UC 709		10.5	8.0	31.3	4.32	7.7	1																		
UC 710		10.2	9.5	31.0	5.29	6.5	1																		
UC 711		10.3	10.0	30.9	5.14	7.2	1																		
UC 712		9.7	9.5	31.9	4.54	8.2	1																		
UC 713		10.0	9.0	31.0	4.90	7.4	1																		
UC 738		10.0	8.5	32.2	4.60	7.0	1				MI														
UC 739		10.7	9.5	30.1	5.05	6.8	1																		
UC 740		10.9	9.5	30.3	5.42	6.6	1																		
UC 741		10.6	10.0	31.7	4.43	7.2	1																		
UC 742		10.1	9.5	30.7	5.14	6.9	1				MI														
UC 743		9.9	9.5	31.7	5.05	6.6	1																		

DEFICIENCIES

	TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
AVG OF STANDARDS	63.3	47.2	1	11.2	77.4	60.6	83	43	10.2	8.5	4.51
MINOR FAULTING VALUES	61.1	45.1	6	12.9	74.9	57.6	78	53	11.5	7.5	3.01
MAJOR FAULTING VALUES	60.2	42.1	11	11.5	73.9	56.6	73	53	11.0	7.0	2.26

**EVALUATION 1 NO PROMISE, 2-LITTLE PROMISE, 3-SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=CALIFORNIA STATION=IMPERIAL VALLEY NURSERY=ADVANCED

TABLE 19

VARIETY	STD	TEST 1000				SIZING		WHT		HARD--		FALL		TOTAL		SEMO		SEMO		DUST		MIXO	
		WT #/BU	K.WT G.	LG %	SM %	ASH %	PRO %	NESS	NO SEC	EXTR %	EXTR %	SPK %	ASH %	COLOR	SCORE								
ALDURA	S	64.5	45.7	56	1	1.72	11.4	112	400	80.0	62.5	33	0.64	85	1								
ALTAR		66.1	44.6	72	1	1.61	11.2	109	400	79.0	63.1	33	0.60	85	2								
MEXICALI 75	S	63.6	52.6	85	1	1.68	11.6	107	400	77.4	62.4	43	0.64	75	4								
WESTERED TURBO	S	64.8	53.8	89	2	1.63	11.4	113	400	77.3	60.2	23	0.59	85	3								
YAVAROS		66.0	52.1	89	0	1.68	11.2	114	400	78.0	62.0	47	0.57	75	0								
1		65.5	52.4	87	0	1.68	13.3	119	400	76.6	60.8	30	0.60	60	2								
2		64.3	44.4	51	0	1.71	12.0	125	400	79.9	62.6	50	0.59	85	0								
3		65.6	46.3	80	0	1.64	12.4	125	400	77.9	60.4	57	0.62	85	3								
4		64.8	45.0	56	0	1.71	12.7	118	400	82.0	59.3	63	0.62	85	1								
5		64.1	46.7	79	0	1.82	14.0	113	400	74.4	56.4	99	0.67	95	1								
6		65.8	52.1	89	0	1.67	12.1	117	400	77.4	60.3	57	0.66	85	2								
7		65.3	43.9	54	0	1.67	12.0	116	400	78.4	61.0	50	0.61	70	0								
8		63.4	48.1	74	0	1.72	13.8	122	400	77.2	59.8	27	0.65	65	1								
9		65.6	46.5	79	0	1.77	13.4	118	400	75.3	57.1	43	0.62	95	1								
10		65.4	46.5	77	0	1.76	13.6	123	400	76.6	57.6	63	0.67	75	0								
11		64.3	52.6	89	0	1.81	13.0	113	400	77.6	61.1	47	0.68	75	1								
12		64.5	43.9	59	0	1.76	13.6	108	400	76.9	58.8	53	0.63	70	1								
19		64.2	46.9	60	0	1.69	11.9	111	400	77.1	60.7	57	0.64	80	2								
20		64.0	48.3	76	0	1.61	11.7	115	400	77.5	60.7	33	0.60	65	2								
21		64.4	47.4	71	0	1.71	12.5	115	400	78.7	61.2	27	0.61	70	2								
22		63.3	48.5	76	0	1.68	12.9	121	400	79.0	62.6	33	0.61	60	2								
23		64.3	46.9	77	0	1.64	12.1	114	400	77.7	60.0	47	0.60	85	3								
24		64.5	37.2	20	0	1.68	12.9	113	400	76.0	59.7	40	0.63	80	2								
25		64.3	46.5	70	0	1.81	13.6	113	400	76.7	60.2	47	0.72	80	2								
26		65.9	49.3	87	0	1.68	13.2	114	400	76.7	60.3	33	0.66	80	1								
27		64.7	47.8	80	0	1.68	12.4	121	400	78.3	60.0	30	0.65	90	3								
28		65.1	44.6	68	0	1.70	12.9	114	400	75.8	57.3	50	0.60	95	0								
29		64.4	43.1	60	0	1.79	13.0	111	400	76.6	58.9	67	0.64	95	3								
30		64.2	46.5	62	0	1.68	11.7	105	400	77.4	60.9	37	0.61	80	2								
31		64.0	43.7	63	0	1.81	13.0	103	400	75.9	56.9	73	0.69	95	0								
32		65.9	48.8	80	0	1.65	11.8	108	400	76.6	60.1	63	0.63	75	3								
33		64.6	48.8	78	0	1.70	11.6	111	400	76.5	60.0	47	0.62	80	1								
34		64.5	48.5	76	1	1.65	12.0	112	400	78.5	61.2	37	0.61	65	2								
35		65.5	45.5	66	0	1.64	11.8	115	400	76.0	59.7	53	0.62	75	3								
36		64.7	42.2	42	0	1.77	12.3	111	400	75.5	57.9	37	0.62	70	2								
37		64.4	40.7	35	1	1.68	12.7	120	400	77.0	60.3	47	0.69	75	1								
38		64.7	42.6	50	0	1.71	12.4	113	400	76.7	60.7	67	0.66	75	2								
39		63.9	42.7	53	1	1.96	12.3	94	400	76.5	60.2	99	0.92	85	1								
40		64.6	51.5	90	0	1.68	11.5	111	400	76.9	60.2	53	0.61	75	3								
41		65.8	46.3	77	1	1.76	12.2	112	400	76.1	57.4	37	0.66	75	1								
42		65.6	45.5	74	0	1.66	12.8	121	400	73.6	55.6	60	0.65	70	2								
43		64.9	47.1	75	0	1.82	13.4	114	400	76.4	57.8	80	0.70	65	1								
44		63.0	37.5	9	2	1.65	11.8	116	400	78.4	58.5	23	0.70	70	0								

TABLE 19 (Cont.) STATE=CALIFORNIA STATION=IMPERIAL VALLEY NURSERY=ADVANCED

VARIETY				STD	SEM	PRO	VIS	COOK	FIRM-	SCORE		DEFICIENCIES											
								WT	NESS	RES	***	TW	KN	SM	WP	TX	SX	DU	SK	SP	VI	FR	
				%				G.		G.													
ALDURA	S	10.1	9.5	32.8	5.18	6.8	1																
		10.0	9.5	32.3	5.42	7.5	1																
ALTAR																							
MEXICALI 75	S	10.4	8.0	29.9	5.36	7.3	1																
WESTERB TURBO		10.0	9.5	31.4	5.01	7.6	1																
YAVAROS	S	9.8	8.0	31.6	5.14	7.9	1																
1		11.4	9.5	31.1	5.34	7.8	1																
2		10.6	9.0	33.1	4.95	7.2	1																
3		10.7	9.0	30.8	5.53	6.9	1																
4		11.4	9.5	31.6	6.03	6.6	1																
5		12.3	10.0	31.7	5.83	7.2	1																
6		10.7	9.0	30.6	6.05	7.0	1																
7		10.5	7.5	32.7	4.86	7.3	1																
8		11.9	7.5	31.1	5.83	6.2	1																
9		12.0	9.5	31.2	5.96	6.4	1																
10		11.7	8.5	32.0	5.75	6.6	1																
11		11.4	9.0	31.5	6.33	7.8	3																
12		11.9	8.0	32.1	5.31	7.2	2																
19		10.6	9.0	29.9	4.99	6.3	1																
20		10.5	7.5	31.2	5.42	7.1	1																
21		11.1	8.0	30.8	5.18	6.8	2																
22		11.3	7.5	32.3	5.18	6.8	1																
23		10.4	9.0	31.5	5.31	7.3	1																
24		11.3	9.0	30.6	5.96	7.0	1																
25		12.4	9.0	30.6	5.79	6.1	4																
26		11.3	9.0	30.9	5.96	6.4	3																
27		10.9	9.5	31.3	5.85	6.5	1																
28		11.0	10.0	31.6	5.49	6.2	1																
29		11.3	10.0	30.5	6.09	6.4	1																
30		10.6	9.5	31.0	4.95	7.1	1																
31		11.0	9.5	32.4	4.45	6.8	1																
32		10.1	8.5	30.6	5.21	6.7	1																
33		10.1	9.5	31.4	4.67	6.7	1																
34		10.3	7.5	29.2	5.44	7.4	1																
35		10.4	8.0	30.1	5.42	6.8	1																
36		10.6	7.5	30.4	5.05	6.9	1																
37		11.3	8.5	31.5	5.01	6.7	2																
38		11.2	8.5	31.0	5.29	6.1	1																
39		10.8	9.0	30.7	5.29	6.0	1																
40		10.2	8.5	32.1	5.36	6.6	1																
41		10.0	9.0	31.0	5.79	7.2	1																
42		11.0	8.0	31.2	6.05	6.4	1																
43		11.5	8.0	30.2	5.20	6.4	1																
44		10.1	7.5	31.2	5.03	6.3	1																

DEFICIENCIES
TW KW SM WP TX SX DU SK SP VI FR
AVG OF STANDARDS 64.7 50.1 1 11.4 78.5 62.3 78 41 10.1 0.5 5.23
MINOR FAULTING VALUES 62.5 48.0 6 12.5 76.0 59.3 68 51 11.5 7.5 3.73
MAJOR FAULTING VALUES 61.6 45.0 11 11.5 75.0 50.3 63 56 11.0 7.0 2.98
**EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=CALIFORNIA STATION=IMPERIAL VALLEY NURSERY=ADVANCED

TABLE 20

VARIETY	STD	WT #/BU	K.WT G.	SIZING			WHT	PRO %	NESS	HARD- FALL	TOTL	SEMO %	SPK %	SEMO %	DUST	MIXO	SCORE
				LG %	SM %	ASH %											
ALDURA	S	61.1	38.5	24	0	1.74	14.5	125	400	77.9	59.4	17	0.67	100	1		
ALTAR		61.8	35.1	22	1	1.74	13.9	112	400	78.5	62.3	23	0.72	80	3		
MEXICALI 75	S	60.2	41.8	61	2	1.68	13.6	115	400	77.5	61.7	33	0.68	80	4		
TURBO		61.2	44.6	70	0	1.60	13.3	123	400	77.0	59.1	10	0.65	85	5		
WESTBRED 881	S	60.6	41.8	66	2	1.77	14.9	117	400	76.6	59.5	20	0.69	90	7		
YAVARDS 79		62.0	40.7	47	2	1.71	13.4	119	400	77.9	60.0	40	0.65	75	2		
PH 883-2		62.5	42.2	65	1	1.72	14.8	118	400	76.8	58.8	20	0.67	95	8		
PH 883-15		59.3	47.7	85	0	1.91	16.4	123	400	77.0	59.0	23	0.76	80	8		
PH 884-32		61.3	37.2	27	1	1.73	14.3	106	400	77.1	59.6	27	0.71	90	7		
84D 156		62.3	38.3	42	1	1.80	13.7	114	400	78.0	58.9	33	0.71	90	3		
84D 228		58.8	38.8	25	1	1.91	14.2	112	400	78.4	60.8	50	0.81	105	5		
84D 270		61.3	38.2	24	1	1.80	14.2	109	400	78.3	59.6	37	0.72	90	3		
85D 9606		62.6	42.7	74	0	1.68	14.5	117	400	75.5	57.8	37	0.63	95	4		
85D 9611		62.1	40.7	65	0	1.77	14.7	125	400	76.7	58.7	23	0.68	85	5		
85D 9612		62.1	41.5	63	0	1.80	14.0	114	400	77.1	59.5	23	0.73	90	4		
85D 9614		62.6	42.9	57	0	1.77	14.4	111	400	77.6	61.1	17	0.72	95	5		
85D 9615		62.6	41.0	61	0	1.79	14.6	114	400	76.4	57.8	17	0.72	95	4		
85D 9643		60.1	36.0	50	0	1.86	15.0	121	400	76.9	57.2	13	0.70	105	7		
85D 9687		62.4	40.7	59	1	1.74	13.6	112	400	76.7	60.4	27	0.70	100	6		
85D 9698		61.6	37.5	42	0	1.71	14.3	113	400	77.2	58.7	13	0.68	100	6		
85D 9699		60.3	43.5	65	0	1.75	14.9	113	400	71.6	57.4	10	0.69	100	7		

QUALITY DATA OF DURUM SAMPLES 1987 CROP

TABLE 20 (Cont.) STATE=CALIFORNIA STATION=IMPERIAL VALLEY NURSERY=ADVANCED

VARIETY	STD	SEM0 %	VIS COL	COOK WT	FIRM- NESS	RES G.	SCORE ***	DEFICIENCIES									
								TW	KW	SM	WP	TX	SX	DU	SK	SP	VI FR
ALDURA	S	13.3	9.5	31.7	5.53	6.0	4										
ALTAR		13.3	9.0	31.3	7.47	6.3	1								MI		
MEXICALI 75	S	12.9	9.0	31.6	6.85	6.1	2								MI		
TURBO		12.3	9.5	31.2	7.41	6.5	4										
WESTRED 881	S	14.1	9.5	29.6	8.29	6.3	4										
YAVAROS 79		12.5	8.5	31.6	6.89	6.1	1								MJ MJ		
PH 883-2		13.7	10.0	30.8	7.62	5.9	4										
PH 883-15		15.6	9.5	29.3	9.03	5.4	2								MI		
PH 884-32		13.4	9.5	29.5	7.99	5.9	4										
84D 156		13.0	9.5	30.3	5.94	6.6	4								MI		
84D 228		13.5	10.0	29.7	6.91	6.1	3										
84D 270		13.5	9.5	29.8	6.54	6.1	4								MJ		
85D 9606		13.8	9.5	30.7	7.47	5.6	4								MI		
85D 9611		13.6	9.5	31.0	7.08	6.0	4										
85D 9612		13.3	9.5	31.3	6.93	6.1	4										
85D 9614		13.5	10.0	30.4	7.00	5.9	4										
85D 9615		13.9	10.0	31.0	6.85	5.6	4										
85D 9643		14.3	10.0	31.0	7.47	5.8	3								MI		
85D 9687		12.6	10.0	31.3	6.59	6.3	4										
85D 9698		13.4	10.0	30.6	6.63	6.1	4								MI		
85D 9699		13.9	10.0	31.0	7.24	6.0	2									MJ	

DEFICIENCIES

AVG OF STANDARDS 60.6 40.7 1 14.3 77.3 60.2 90 23 13.4 9.3 6.89
 MINOR FAULTING VALUES 50.4 38.6 6 12.5 71.8 57.2 80 33 11.5 8.3 5.39
 MAJOR FAULTING VALUES 57.5 35.6 11 11.5 73.8 56.2 75 38 11.0 7.8 4.64

*EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=CALIFORNIA STATION=DAVIS NURSERY=ADVANCED

TABLE 21

		TEST	1000	SIZING	WHT	WHT	HARD-	FALL	TOTL	SEMO	EXTR	SPK	ASH	DUST	MIXO
		WT	K.WT	L6	SM	ASH	PRO	NESS	NO	EXTR	%	%	%	%	%
		#/BU	G.	%	%	%	%	SEC	SEC	%	%	%	%	%	%
VARIETY-----		STD													
ALDURA	S	62.5	42.0	53	2	1.47	12.3	106	400	76.4	59.3	50	0.56	85	1
ALTAR 84		64.4	40.8	58	3	1.44	10.8	106	300	74.3	58.2	20	0.59	75	2
MEXICALI 75	S	61.9	45.2	64	3	1.49	11.4	96	400	73.7	57.9	37	0.58	75	4
WESTBRED TURBO		64.1	48.5	77	3	1.38	11.8	103	400	74.9	58.7	27	0.53	80	3
YAVAROS		64.9	49.3	75	2	1.39	11.3	107	400	74.7	59.8	40	0.54	75	1
720/2		62.5	42.9	51	2	1.47	11.9	106	400	77.0	60.4	30	0.57	85	1
720/3		64.5	46.1	75	1	1.47	12.4	100	400	76.2	59.2	27	0.60	85	3
720/4		65.3	45.0	65	2	1.53	12.2	107	400	74.1	58.0	33	0.58	80	2
720/6		64.7	45.2	74	2	1.47	12.4	111	400	75.3	59.0	53	0.64	80	3
720/9		65.5	43.9	69	2	1.60	12.4	105	400	74.7	56.9	37	0.58	95	0
720/10		65.8	44.8	76	2	1.61	12.4	109	400	72.9	62.3	73	0.57	70	0
720/11		63.6	50.0	82	2	1.62	12.4	93	400	75.2	58.7	57	0.64	75	2
720/23		62.9	40.2	65	3	1.47	11.2	102	400	74.9	57.5	43	0.58	80	4
720/24		64.5	35.2	19	3	1.56	12.2	99	400	73.2	55.5	37	0.60	75	3
720/25		64.5	45.5	72	1	1.55	12.3	105	400	75.9	57.5	13	0.62	75	2
720/26		65.5	47.8	79	1	1.60	12.3	105	400	72.6	55.7	63	0.60	90	3
720/27		64.2	49.0	73	2	1.58	11.7	105	400	75.5	58.8	43	0.65	85	3
720/28		64.8	42.2	53	2	1.56	12.1	105	400	74.0	55.8	40	0.58	95	0
720/29		64.8	44.2	59	3	1.58	11.8	97	400	73.5	56.9	77	0.60	95	3
720/30		63.5	43.1	58	2	1.48	11.3	104	400	75.6	58.3	47	0.54	75	3
720/32		65.7	48.3	78	1	1.50	11.9	106	400	74.8	56.1	40	0.61	75	3
720/33		63.6	45.2	62	2	1.51	12.3	102	400	75.4	57.5	33	0.60	80	1
720/34		63.4	44.2	65	3	1.50	10.9	101	400	74.1	56.1	17	0.57	60	2
720/36		64.6	40.8	53	3	1.55	11.4	99	400	72.8	54.1	23	0.60	70	2
720/37		63.6	36.8	35	3	1.51	12.0	102	400	75.5	57.5	23	0.62	75	1
720/41		64.1	43.5	64	2	1.64	11.7	102	400	73.7	55.2	40	0.63	75	1
720/43		64.4	49.0	67	2	1.63	12.4	105	400	75.8	56.9	23	0.62	70	2
720/44		64.4	36.0	14	3	1.48	11.3	98	400	75.0	54.3	23	0.57	65	0

QUALITY DATA OF DURUM SAMPLES 1987 CROP

TABLE 21 (Cont.) STATE=CALIFORNIA STATION=DAVIS NURSERY=ADVANCED

-----VARIETY-----				STD	SEM0	VIS	COOK	FIRM-	SCORE	-----DEFICIENCIES-----									
				PRO	COL	WT	NESS	RES	***	TW KW SM WP TX SX DU SK SP VI FR									
				%		G.		G.											
ALDURA	S	11.2	9.0	32.1	5.42	6.2	2			MI							MI		
ALTAR 84		9.8	8.5	33.4	4.97	7.0	1			MJ							MJ		
MEXICALI 75	S	10.3	9.0	31.8	4.92	6.2	1			MJ							MJ		
WESTBRED TURBO		10.5	9.5	31.2	5.36	6.4	1			MI							MJ		
YAVAROS		10.4	8.5	32.2	5.38	6.7	1			MJ							MJ		
720/2		10.7	9.5	32.4	5.44	6.3	1			MI							MJ		
720/3		10.9	9.0	32.2	5.62	6.3	1			MI							MJ		
720/4		10.9	9.5	32.5	6.09	6.4	1			MI							MJ		
720/6		11.3	9.5	31.2	5.88	6.5	2			MI							MI		
720/9		10.9	9.5	31.9	6.24	6.0	1			MI							MJ		
720/10		11.1	8.5	30.9	5.34	6.6	1			MI					MI	MJ	MI		
720/11		10.7	9.0	32.0	5.57	6.5	1			MI					MI	MJ	MJ		
720/23		10.3	9.5	32.2	5.96	6.4	1			MI									
720/24		10.6	9.0	31.4	6.05	6.9	1			MJ									
720/25		10.9	9.0	32.5	5.34	6.7	1			MI									
720/26		10.8	9.5	31.0	6.09	6.5	1			MI									
720/27		10.4	9.5	32.9	5.40	6.9	1			MI									
720/28		10.8	10.0	32.2	5.09	6.4	1			MI									
720/29		10.5	10.0	31.2	5.03	6.4	1			MI									
720/30		10.1	9.0	31.4	4.21	6.6	1			MJ									
720/32		10.4	8.0	33.4	4.73	7.0	1			MI									
720/33		10.9	9.5	32.7	4.82	5.9	1			MI									
720/34		10.3	7.0	31.6	5.81	6.0	1			MJ									
720/36		10.0	7.5	32.4	5.08	7.0	1			MJ									
720/37		10.7	8.0	32.3	5.38	6.3	1			MI									
720/41		10.1	8.5	31.5	5.98	6.6	1			MJ									
720/43		11.3	8.0	31.0	5.70	6.1	1			MI									
720/44		9.9	7.5	31.1	4.62	7.0	1			MJ									

DEFICIENCIES

	TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
AVG OF STANDARDS	62.2	43.6	3	11.8	75.0	58.6	80	44	10.7	9.0	5.17
MINOR FAULTING VALUES	60.0	41.5	3	12.5	72.5	55.6	70	54	11.5	8.0	3.67
MAJOR FAULTING VALUES	59.1	38.5	13	11.5	71.5	54.6	65	59	11.0	7.5	2.92

**EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=CALIFORNIA STATION=DAVIS NURSERY=ADVANCED

TABLE 22

		TEST	1000	SIZING	WHT	WHT	HARD-	FALL	TOTL	SEMO	EXTR	SPK	ASH	DUST	MIXO
		WT	K.WT	LG	SM	PRO	NESS	NO	EXTR	EXTR	%	%	%	%	%
		#/BU	G.	%	%	%	%	SEC	%	%	%	%	%	%	%
		STD	WT	LG	SM	ASH	PRO	NESS	NO	EXTR	EXTR	SPK	ASH	DUST	MIXO
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
		VARIETY	WT	LG	SM	ASH	PRO	NESS	NO	EXTR	EXTR	SPK	ASH	DUST	MIXO
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ALDURA	S	63.2	43.3	57	2	1.49	12.6	107	400	74.8	57.5	37	0.57	80	1
ALTAR		65.0	41.7	57	3	1.46	11.3	106	400	75.0	59.1	40	0.59	70	3
MEXICALI 75	S	62.8	50.5	76	2	1.49	12.0	103	400	73.9	57.9	20	0.58	70	4
YAVAROS		65.1	48.3	75	1	1.43	11.7	102	400	74.9	56.5	37	0.55	70	1
721/9		64.4	51.0	82	2	1.49	12.7	113	400	75.9	58.2	33	0.55	60	3
721/10		64.1	49.3	78	1	1.46	12.9	103	400	74.3	57.7	47	0.54	65	3
721/11		64.4	41.3	64	2	1.61	12.7	111	400	76.9	58.7	27	0.62	70	4
721/12		65.0	46.1	70	2	1.49	12.0	105	400	68.9	54.6	20	0.57	70	4
721/13		64.5	43.9	72	0	1.61	13.3	104	400	73.7	54.0	37	0.57	75	3
721/14		64.9	44.2	67	1	1.50	12.5	106	400	75.9	59.0	27	0.59	80	0
721/15		63.7	46.9	65	1	1.56	13.0	104	400	74.8	57.9	33	0.60	70	2
721/16		64.2	40.2	50	2	1.60	13.5	110	400	73.2	55.2	57	0.63	70	2
721/17		65.1	38.8	45	2	1.58	13.0	103	400	73.0	55.0	13	0.63	70	2
721/19		64.9	41.2	47	3	1.48	13.4	108	400	73.3	54.2	53	0.63	75	3
721/20		65.5	44.1	72	1	1.63	14.1	112	400	71.6	54.0	53	0.62	90	3
721/21		64.4	47.1	72	2	1.55	12.1	97	400	73.3	56.4	37	0.62	90	4
721/22		63.7	45.0	60	2	1.54	13.2	105	400	75.3	58.2	40	0.62	75	0
721/29		64.1	40.7	55	2	1.65	12.4	106	400	74.8	58.0	17	0.64	90	3
721/31		65.0	50.5	82	1	1.60	13.8	104	400	73.5	58.2	33	0.62	75	3
721/32		65.7	43.7	68	1	1.64	13.3	107	400	72.4	56.1	30	0.63	90	3
721/35		65.0	43.5	72	2	1.64	13.8	104	400	72.8	55.8	47	0.60	70	3
721/36		64.8	54.3	86	1	1.56	12.8	109	400	74.2	59.6	43	0.65	70	4
721/37		64.7	52.9	83	2	1.66	13.5	106	400	73.9	57.1	47	0.66	70	2
721/39		66.1	45.0	71	1	1.59	12.5	112	400	74.0	56.9	30	0.62	70	2
721/41		65.0	46.7	77	2	1.62	12.7	107	400	73.6	58.0	23	0.60	75	2
721/44		65.1	47.4	75	2	1.65	12.7	101	400	74.1	56.7	47	0.60	90	1

QUALITY DATA OF DURUM SAMPLES 1987 CROP

TABLE 22 (Cont.) STATE=CALIFORNIA STATION=DAVIS NURSERY=ADVANCED

TABLE 22 (Cont.)																				
VARIETY				SEMO	VIS	COOK	FIRM-	SCORE	DEFICIENCIES											
-----				STD	PRO	COL	WT	NESS	RES	TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
					%		G.		G.											
ALDURA	S	10.8	8.5	31.8	5.42	6.1	2			MI								MJ		
ALTAR		10.6	8.0	33.6	5.34	6.7	1			MJ								MI	MJ	
MEXICALI 75	S	10.7	8.0	32.7	5.08	6.4	1						MI					MJ	MJ	
YAVAROS		10.2	8.0	31.2	4.82	6.4	1													
721/9		11.4	6.0	32.0	5.94	7.0	1										MJ	MI	MJ	
721/10		11.3	7.0	32.6	5.92	6.4	1										MI	MJ	MI	
721/11		11.2	7.5	31.9	5.94	7.0	2													
721/12		10.3	7.5	30.9	6.16	6.8	1													
721/13		11.4	8.0	31.4	6.42	6.6	2													
721/14		10.6	9.0	32.0	5.25	6.8	1													
721/15		11.2	8.0	32.8	6.16	6.0	3													
721/16		11.7	8.5	32.4	7.15	5.8	2													
721/17		11.7	8.5	31.8	6.42	5.7	3													
721/19		11.6	8.5	31.7	7.08	5.5	1													
721/20		12.1	8.5	31.2	5.79	5.7	1													
721/21		10.3	9.5	30.7	5.90	6.6	1													
721/22		11.4	8.5	32.3	5.10	6.0	3													
721/29		11.0	10.0	31.4	5.31	6.8	1													
721/31		11.8	9.0	31.0	6.20	6.4	4													
721/32		11.3	9.5	30.1	5.96	7.0	3													
721/35		12.1	7.5	31.2	5.88	6.2	3													
721/36		11.6	8.5	31.2	6.24	6.4	4													
721/37		11.7	8.5	31.3	5.62	6.5	3													
721/39		10.8	7.5	32.7	5.53	6.5	1													
721/41		11.4	8.5	30.8	5.81	6.2	3													
721/44		11.8	9.5	32.1	5.92	6.0	3													

DEFICIENCIES TW KW SM WP TX SX DU SK SP VI FR
 AVS OF STANDARDS 63.0 46.9 2 12.3 74.3 57.7 75 29 10.7 9.3 5.25
 MINOR FAULTING VALUES 60.8 44.8 7 12.5 71.8 54.7 65 39 11.5 7.3 3.75
 MAJOR FAULTING VALUES 59.9 41.8 12 11.5 70.8 53.7 60 44 11.0 6.8 3.00
 RE-EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=CALIFORNIA STATION=DAVIS NURSERY=ADVANCED

TABLE 23

		TEST	1000	SIZING	WHT	WHT	HARD-	FALL	TOTL	SEMO	EXTR	SPK	ASH	COLOR	SCORE
		WT	K.WT	LG	SM	ASH	PRO	NESS	NO	EXTR	EXTR	EXTR	%	%	%
		#/BU	G.	%	%	%	%	%	SEC	%	%	%	%	%	%
		STD	WT	LG	SM	ASH	PRO	NESS	NO	EXTR	EXTR	EXTR	%	%	%
		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
		VARIETY	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ALDURA			63.5	45.0	64	2	1.50	12.6	109	400	76.3	59.8	27	0.57	85
ALTAR	S		65.6	43.9	66	2	1.44	11.1	95	400	73.8	58.4	20	0.53	70
CHEN			64.7	43.1	64	2	1.61	13.2	104	400	72.1	55.4	43	0.55	80
MEXICALI 75			62.8	49.0	78	3	1.51	11.9	97	400	73.8	58.7	53	0.56	70
YAVAROS			65.1	47.8	75	2	1.43	11.6	107	400	74.5	58.0	30	0.52	70
722/4			65.4	41.7	67	2	1.67	12.2	106	400	73.8	56.5	43	0.61	75
722/5			64.7	43.7	71	1	1.89	14.9	107	400	72.0	54.9	37	0.69	90
722/6			65.3	46.7	76	1	1.72	13.6	108	400	72.8	56.1	43	0.58	70
722/8			64.6	43.5	71	2	1.64	12.9	108	400	72.9	54.9	57	0.56	70
722/9			64.7	43.7	67	1	1.64	13.3	110	400	73.4	55.0	57	0.59	70
722/16			64.3	41.7	54	1	1.54	12.8	106	400	73.8	56.7	33	0.56	85
722/21			65.3	45.7	76	1	1.54	12.7	105	400	73.8	57.9	53	0.58	70
722/22			65.1	45.8	75	1	1.51	12.6	104	400	73.9	56.7	40	0.59	70
722/26			65.3	51.3	85	1	1.51	13.0	110	400	72.8	56.5	17	0.54	75
722/27			64.9	39.5	62	2	1.60	12.7	107	400	73.6	56.8	33	0.59	75
722/28			64.8	44.2	71	1	1.63	12.9	102	400	72.3	55.6	53	0.56	65
722/32			64.0	42.0	64	3	1.69	13.0	105	400	71.7	53.2	17	0.56	80
722/42			64.6	43.5	73	1	1.56	13.0	110	400	74.8	58.5	30	0.58	75
722/43	S		63.4	41.0	60	3	1.60	12.1	102	400	74.7	58.0	33	0.61	80
722/44			63.4	41.5	58	3	1.63	12.1	105	378	74.3	56.7	40	0.58	75

1987 CROP

TABLE 23 (Cont.)

[illegible]

DEFICIENCIES

AVG OF STANDARDS

MINOR FAULTING VA

MAJOR FAULTING VA

***EVALUATION 1=NO PROMISE. 2=LITTLE PROMISE. 3=SOME PROMISE. 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=CALIFORNIA STATION=DAVIS NURSERY=ADVANCED

TABLE 24

		TEST	1000	SIZING	WHT	WHT	HARD-	FALL	TOTL	SEMO	EXTR	SPK	SEMO	DUST	MIXO
		WT	K.WT	LG	SM	ASH	PRO	NESS	NO	EXTR	%	%	%	ASH	SCORE
		#/BU	G.	%	%	%	%	SEC	SEC	%	%	%	%	%	
-----VARIETY-----		STD													
ALDURA ALTAR MEXICALI 75 YAVAROS 723/5 723/6 723/16 723/19 723/20 723/30 723/31 723/41 723/44	S	63.3	42.2	63	1	1.50	12.8	113	400	75.0	62.1	77	0.59	85	2
		65.6	38.5	62	2	1.43	11.2	116	400	74.4	61.5	47	0.57	70	3
		63.0	45.0	78	2	1.53	11.6	104	400	73.9	60.8	37	0.63	70	4
		65.1	50.3	76	2	1.41	11.7	107	400	76.6	63.7	87	0.58	65	2
		65.6	48.5	78	0	1.62	12.5	110	400	75.7	62.6	53	0.66	75	2
		63.1	41.8	66	2	1.67	12.3	105	400	75.2	57.4	40	0.64	90	3
		65.6	41.0	67	0	1.56	12.7	110	400	74.0	53.0	10	0.58	80	2
		64.2	41.7	54	2	1.53	12.7	107	400	72.5	53.8	27	0.61	70	1
		63.5	46.5	73	1	1.52	13.4	110	400	73.6	56.1	30	0.61	75	3
		64.6	46.1	80	1	1.58	12.5	114	400	73.6	56.3	37	0.60	75	3
		64.7	41.2	65	2	1.57	12.4	109	400	73.3	54.8	43	0.57	70	4
	S	63.5	47.1	75	1	1.57	13.3	103	400	75.3	56.8	30	0.60	75	3
		64.4	48.5	82	1	1.51	12.6	112	400	75.7	58.9	53	0.58	70	2

QUALITY DATA OF DURUM SAMPLES 1987 CROP

TABLE 24 (Cont.)		STATE=CALIFORNIA			STATION=DAVIS			NURSERY=ADVANCED										
-----VARIETY-----		STD	SEMO PRO	VIS COL	COOK WT	FIRM- NESS	RES	SCORE	-----DEFICIENCIES-----									
			%					***	TW KW SM WP TX SX DU SK SP VI FR									
									G.									
									G.									

ALDURA	S	11.0	8.5	33.1	5.83	6.4	1	MI											
ALTAR		10.2	8.0	33.5	6.46	6.6	1	MJ											
MEXICALI 75		10.6	8.0	33.4	6.76	6.4	1												
YAVAROS		10.5	7.5	33.7	6.35	6.8	1												
723/5		11.1	8.5	34.3	5.88	6.3	2												
723/6		11.2	9.5	33.5	5.29	6.3	2												
723/16		10.9	9.5	32.7	5.18	5.7	1												
723/19		10.9	8.5	33.5	5.16	6.1	1												
723/20		11.7	8.5	32.2	6.44	5.8	3												
723/30		11.4	8.5	32.2	5.85	5.9	1												
723/31		11.0	8.0	31.6	5.64	6.6	1												
723/41	S	11.5	7.5	32.2	5.40	6.4	3												
723/44		11.1	7.5	33.4	5.70	6.8	1												

DEFICIENCIES
 TW KW SM WP TX SX DU SK SP VI FR
 AVG OF STANDARDS 63.4 44.6 1 13.0 75.1 59.4 80 54 11.3 8.0 5.61
 MINOR FAULTING VALUES 61.2 42.5 6 12.5 72.6 56.4 70 64 11.5 7.0 4.11
 MAJOR FAULTING VALUES 60.3 39.5 11 11.5 71.6 55.4 65 69 11.0 6.5 3.36

**EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1987 CROP

STATE=CALIFORNIA STATION=DAVIS NURSERY=ADVANCED

TABLE 25

TEST		1000	SIZING		WHT	WHT	HARD-	FALL	TOTL	SEMO	EXTR	%	EXTR	%	SEMO	EXTR	%	SPK	ASH	%	COLOR	SCORE
-----VARIETY-----		STD	WT	K.WT	LG	SM	ASH	PRO	NESS	NO	SEC											
		#/BU	G.	%	%	%	%	%														
S	ALDURA	63.1	40.8	58	2	1.58	12.6	102	400	74.8	57.1	37	0.57	80	2							
	ALTAR	65.2	38.2	55	3	1.52	11.4	110	400	74.9	59.0	37	0.60	70	2							
	MEXICALI 75	62.7	41.2	71	3	1.53	11.3	85	400	73.6	58.6	27	0.62	75	3							
	YAVAROS	65.1	46.9	72	2	1.46	11.7	104	400	75.3	59.6	43	0.55	75	2							
	724/14	63.9	41.3	69	2	1.60	12.9	89	400	76.0	58.1	23	0.63	70	0							
	724/15	65.2	43.1	68	2	1.52	12.8	97	400	74.0	56.5	47	0.55	65	2							
	724/17	64.0	38.0	62	3	1.49	12.5	103	400	75.7	55.9	10	0.58	70	0							
	724/28	63.4	35.5	44	2	1.71	13.0	98	400	75.6	57.4	24	0.60	70	3							
	724/32	64.1	41.7	59	2	1.52	12.4	103	400	69.0	55.3	57	0.58	65	1							
	724/39	65.2	51.0	81	2	1.63	12.5	107	400	72.6	56.5	27	0.55	75	1							
	724/40	64.3	45.7	69	2	1.52	12.5	110	400	72.5	56.4	43	0.58	80	0							
	724/42	65.0	44.2	74	1	1.57	13.0	100	400	72.7	54.5	27	0.54	75	3							
	724/43	64.5	43.9	73	2	1.57	12.0	101	400	74.1	58.3	30	0.52	80	3							

QUALITY DATA OF DURUM SAMPLES 1987 CROP

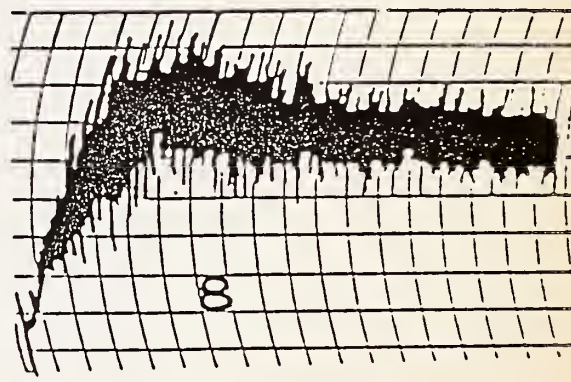
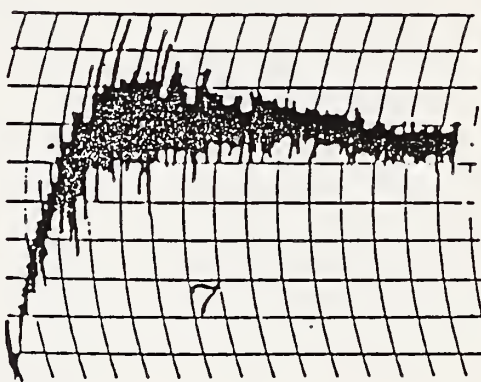
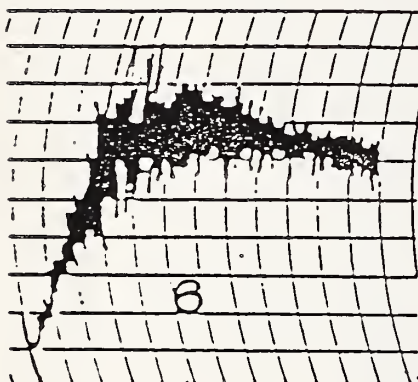
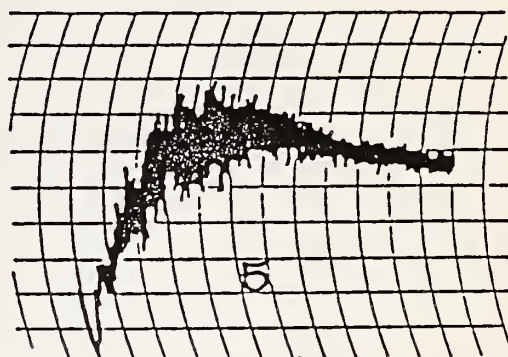
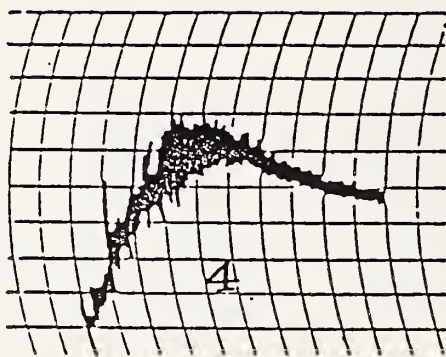
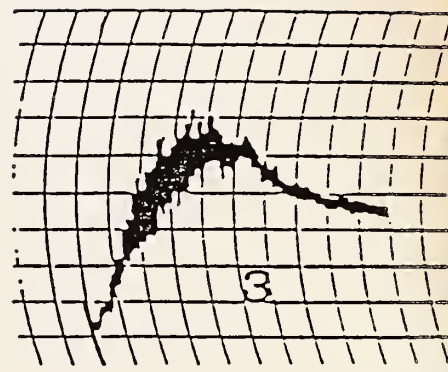
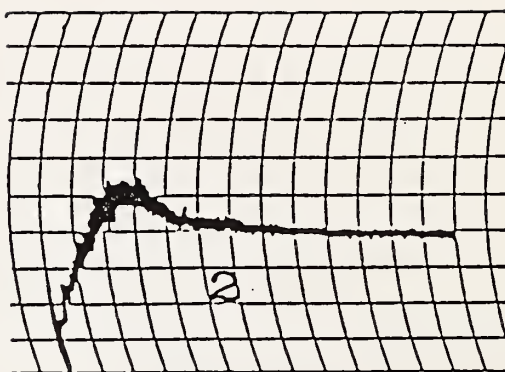
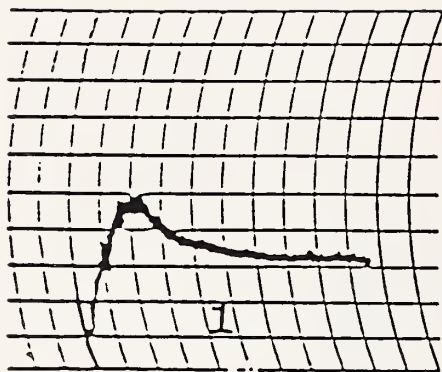
TABLE 25 (Cont.) STATE=CALIFORNIA STATION=DAVIS NURSERY=ADVANCED

-----VARIETY-----										STD	SEMD	VIS	COOK	FIRM-	SCORE	-----DEFICIENCIES-----													
											PRO	COL	WT	NESS	RES	***	TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR		
											%		G.		G.														
ALDURA										S	11.6	8.5	32.6	5.44	6.4	4													
ALTAR											10.3	7.5	34.1	5.01	7.0	1													
MEXICALI 75											10.5	7.5	33.2	5.12	6.4	1													
YAVAROS											10.8	7.5	32.7	4.71	6.6	1													
724/14											11.3	7.5	33.6	4.23	6.6	1													
724/15											11.3	6.0	32.3	5.83	6.4	1													
724/17											11.4	6.0	33.0	4.45	6.7	1													
724/28											11.3	7.5	32.4	5.21	6.6	1													
724/32											11.1	6.0	33.7	3.93	6.0	1													
724/39											11.6	8.5	31.5	5.21	6.4	3													
724/40											11.2	8.5	35.1	4.86	5.9	2													
724/42											11.5	8.0	32.3	5.08	5.8	3													
724/43											11.1	9.0	31.8	5.36	5.4	2													

DEFICIENCIES

AVG OF STANDARDS 63.1 40.8 2 12.6 74.8 57.1 80 37 11.6 8.5 5.44
 MINOR FAULTING VALUES 60.9 38.7 7 12.5 72.3 54.1 70 47 11.5 7.5 3.94
 MAJOR FAULTING VALUES 60.0 35.7 12 11.5 71.3 53.1 65 52 11.0 7.0 3.19

**EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE



REFERENCE MIXOGRAMS
DURUM WHEAT

